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ALDEN'S DICTIONARY CYCLOPEDIA.

CYCLOPEDIA

OF

HISTORY.

IN TWO VOLUMES.
VOL. 1.

Abyssinia—Guiana.

THE COLLEGE OF
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PUGET SOUND

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STACK ROOM

SYMBOLS INDICATING PRONUNCIATION.

The hyphen (-) divides the words into syllables; the accent (′) indicates on which syllable the stress of the voice is to be placed. The symbols *ow* and *oy* designate dipthongal sounds.

ā	mate, fate, fail, aye	*māt, fāt, fāl, ā.*
ă	mat, fat	*măt, făt.*
â	far, calm, father	*fâr, kâm, fâ'thėr.*
ä	care, fair	*cär. fär.*
ȧ	fall, law	*fȧll, lȧw.*
ē	mete, meat, feet, free	*mēt, mēt, fēt, frē.*
ĕ	met, bed	*mĕt, bĕd.*
ė	her, stir, heard, cur	*hėr. stėr, hėrd, kėr.*
ī	pine, ply, height	*pīn, plī, hīt.*
ĭ	pin, nymph, ability	*pĭn, nĭmf, ă-bĭl'-ĭ-tĭ.*
ō	note, toll, soul	*nōt, tōl. sōl.*
ŏ	not, plot	*nŏt, plŏt.*
ô	move, smooth	*môv, smôth.*
ö	Goethe (similar to *e* in her)	*gö'teh.*
ow	noun, bough, cow	*nown, bow, kow*
oy	boy, boil	*boy, boyl.*
ū	pure, dew, few	*pūr, dū, fū.*
ŭ	bud, come, tough	*bŭd, kŭm, tŭf.*
û	full, push, good	*fûl, pûsh, gûd.*
ü	French plume, Scotch guid	*plüm, güd.*

Vowels unmarked are obscure.

ch	chair, match	*chär, măch.*
ċh	German buch, Heidelberg, Scotch loch (guttural)	*bôċh, hī'dĕl-bĕrċh, lŏċh.*
g	game, go, gun	*gām, gō, gŭn.*
j	judge, gem, gin	*jŭj, jĕm, jĭn.*
k	king, cat, cot, cut	*kĭng, kăt, kŏt, kŭt.*
s	sit, scene, cell, city, cypress	*sĭt, sēn, sĕl, sĭt'ĭ, sī'prĕs.*
sh	shun, ambition	*shŭn, ăm-bĭsh'-ŭn.*
th	thing, breath	*thĭng, brĕth.*
th	though, breathe	*thō, brēth.*
z	zeal, maze, muse	*zēl, māz, mūz.*
zh	azure, vision	*ăzh'-ėr, vĭzh'-ŭn*

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PUBLISHER'S NOTE.

This Cyclopedia of History, though complete in itself, is a Department in Alden's Dictionary Cyclopedia; it includes a history and description of all the nations of the earth, ancient and modern (and all the more important natural divisions), except the United States, which will form a separate volume. Provinces, some minor states, and less important natural divisions will be found treated in the Department of General Knowledge. Though the contents of these volumes is largely taken from the last (1888–92) edition of Chamber's Encyclopædia, the original is so largely revised, altered, and enlarged that it cannot fairly be said to be reprinted.

ABBREVIATIONS USED IN THIS WORK.

Adj	adjective
A.B.	Bachelor of Arts
abbr	abbreviation, abbreviated
abla	ablative
Abp	Archbishop
Acad	Academy
acc. *or* ac.	accusative
accom	accommodated, accommodation
act	active
A.D.	in the year of our Lord [*Anno Domini*]
Adjt	Adjutant
Adm	Admiral
adv	adverb
A. F	Anglo-French
Ag	Silver [*Argentum*]
agri	agriculture
A. L	Anglo-Latin
Al	Aluminium
Ala	Alabama
Alb	Albanian
alg	algebra
A.M.	before noon [*ante meridien*]
A.M.	Master of Arts
Am	Amos
Amer	America,-n
anat	anatomy, anatomical
anc	ancient, anciently
AN. M.	in the year of the world [*Anno Mundi*]
anon	anonymous
antiq	antiquity, antiquities
aor	aorist,-ic
app	appendix
appar	apparently
Apr	April
Ar	Arabic
arch	architecture
archæol	archæology
arith	arithmetic
Ark	Arkansas
art	article
artil	artillery
A. S	Anglo-Saxon
As	Arsenic
Assoc	Association
asst	assistant
astrol	astrology
astron	astronomy
attrib	attributive
atty	attorney
at. wt	atomic weight
Au	Gold [*Aurum*]
A.U.C.	in the year of the building of the city (Rome) [*Annourbis conditæ*]
Aug	August
aug	augmentative
Aust	Austrian
A. V	authorized version [of Bible, 1611]
avoir	avoirdupois
B	Boron
B	Britannic
b	born
Ba	Barium
Bart	Baronet
Bav	Bavarian
bl.; bbl	barrel, barrels
B.C.	before Christ
B.C.L.	Bachelor of Civil Law
B.D.	Bachelor of Divinity
bef	before
Belg	Belgic
Beng	Bengali
Bi	Bismuth
biog	biography, biographical
biol	biology
B.L.	Bachelor of Laws
Bohem	Bohemian
bot	botany, botanical
Bp	Bishop
Br	Bromine
Braz	Brazilian
Bret	Breton
Brig	Brigadier
Brit	British, Britannica
bro	brother
Bulg	Bulgarian
bush	bushel, bushels
C	Carbon
c	century
Ca	Calcium
Cal	California
Camb	Cambridge
Can	Canada
Cant	Canterbury
cap	capital
Capt	Captain
Card	Cardinal
carp	carpentry
Cath	Catholic
caus	causative
cav	cavalry
Cd	Cadmium
Ce	Cerium
Celt	Celtic
cent	central
cf	compare [*confer*]
ch *or* chh	church
Chal	Chaldee
chap	chapter
chem	chemistry, chemical
Chin	Chinese
Chron	Chronicles
chron	chronology

ABBREVIATIONS.

Cl	Chlorine
Class	Classical [=Greek and Latin]
Co	Cobalt
Co	Company
co	county
cog	cognate [with]
Col	Colonel
Col	Colossians
Coll	College
colloq	colloquial
Colo	Colorado
Com	Commodore
com	commerce, commercial
com	common
comp	compare
comp	composition, compound
compar	comparative
conch	conchology
cong	congress
Congl	Congregational
conj	conjunction
Conn	Connecticut
contr	contraction, contracted
Cop	Coptic
Cor	Corinthians
Corn	Cornish
corr	corresponding
Cr	Chromium
crystal	crystallography
Cs	Cæsium
ct	cent
Cu	Copper [*Cuprum*]
cwt	a hundred weight
Cyc	Cyclopedia
D	Didymium
D	Dutch
d	died
d. [l. s. d]	penny, pence
Dan	Daniel
Dan	Danish
dat	dative
dau	daughter
D. C	District of Columbia
D.C.L	Doctor of Civil [or Common] Law
D.D	Doctor of Divinity
Dec	December
dec	declension
def	definite, definition
deg	degree, degrees
Del	Delaware
del	delegate, delegates
dem	democratic
dep	deputy
dep	deponent
dept	department
deriv	derivation, derivative
Deut	Deuteronomy
dial	dialect, dialectal
diam	diameter
Dic	Dictionary
diff	different, difference
dim	diminutive
dist	district
distrib	distributive
div	division
doz	dozen
Dr	Doctor
dr	dram, drams
dram	dramatic
dwt	pennyweight
dynam *or* dyn	dynamics
E	Erbium
E. *or* e	East,-ern, ward
E. *or* Eng.	English
Eccl	Ecclesiastics
eccles	ecclesiastical [affairs]
ed	edited, edition, editor
e.g	for example [*ex gratia*]
E. Ind	East Indies, East Indian
elect	electricity
Emp	Emperor
Encyc	Encyclopedia
Eng. *or* E.	English
engin	engineering
entom	entomology
env. ext	envoy, extraordinary
ep	epistle
Eph	Ephesians
Episc	Episcopal
eq. *or* =	equal, equals
equiv	equivalent
esp	especially
Est	Esther
estab	established
Esthon	Esthonian
etc	and others like [*et cetera*]
Eth	Ethiopic
ethnog	ethnography
ethnol	ethnology
et seq	and the following [*et sequentia*]
etym	etymology
Eur	European
Ex	Exodus
exclam	exclamation
Ezek	Ezekiel
Ezr	Ezra
F	Fluorine
F. *or* Fr.	French
fa	father
Fahr	Fahrenheit
far	farriery
Fe	Iron [*Ferrum*]
Feb	February
fem	feminine
fig	figure, figuratively
Fin	Finnish
F.—L	French from Latin
Fla	Florida
Flem	Flemish
for	foreign
fort	fortification
Fr. *or* F.	French
fr	from
freq	frequentative
Fris	Frisian
ft	foot, feet
fut	future
G. *or* Ger.	German
G	Glucinium
Ga	Gallium
Ga	Georgia
Gael	Gaelic
Gal	Galatians
gal	gallon
galv	galvanism, galvanic
gard	gardening
gen	gender
Gen	General

ABBREVIATIONS.

Gen.	Genesis
gen.	genitive
Geno.	Genoese
geog.	geography
geol.	geology
geom.	geometry
Ger.	German
Goth.	Gothic
Gov.	Governor
govt.	government
Gr.	Grand, Great
Gr.	Greek
gr.	grain, grains
gram.	grammar
Gr. Brit.	Great Britain
Gris.	Grisons
gun.	gunnery
H.	Hegira
H.	Hydrogen
h.	hour, hours
Hab.	Habakkuk
Hag.	Haggai
H. B. M.	His [or Her] Britannic Majesty
Heb.	**Hebrew, Hebrews**
her.	**heraldry**
herpet.	herpetology
Hg.	Mercury [*Hydrargyrum*]
hhd.	hogshead, hogsheads
Hind.	Hindustani, Hindu, or Hindi
hist.	history, historical
Hon.	Honorable
hort.	horticulture
Hos.	Hosea
Hung.	Hungarian
Hydros.	Hydrostatics
I.	Iodine
I.; Is.	Island; Islands
Icel.	Icelandic
ichth.	ichthyology
Ida.	Idaho
i. e.	that is [*id est*]
Ill.	Illinois
illus.	illustration
imperat.	imperative
impers.	impersonal
imp.	imperfect
imp. p.	imperfect participle
improp.	improperly
In.	Indium
in.	inch, inches
[illegible]	[illegible]
Ind.	[illegible] Indian
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
Indo-Eur.	Indo-European
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible], -al
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible] pronoun
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible], -ly
[illegible]	[illegible]
[illegible]	[illegible]
Jan.	January
Jap.	Japanese
Jas.	James
Jer.	Jeremiah
Jn.	John
Josh.	Joshua
Jr.	Junior
Judg.	Judges
K.	Potassium [*Kalium*]
K.	Kings [in Bible]
K.	king
Kan.	Kansas
Kt.	Knight
Ky.	Kentucky
L.	Latin
L.	Lithium
L. [l. s. d.], *or* £	pound, pounds [sterling]
La.	Lanthanum
La.	Louisiana
Lam.	Lamentations
Lang.	Languedoc
lang.	language
Lap.	Lapland
lat.	latitude
lb.; llb. *or* lbs.	pound; pounds [weight]
Let.	Lettish
Lev.	Leviticus
LG.	Low German
L.H.D.	Doctor of Polite Literature
Lieut.	Lieutenant
Lim.	Limousin
Lin.	Linnaeus, Linnæan
lit.	literal, -ly
lit.	literature
Lith.	Lithuanian
lithog.	lithograph, -y
LL.	Late Latin, Low Latin
LL.D.	Doctor of Laws
long.	longitude
Luth.	Lutheran
M.	Middle
M.	Monsieur
m.	mile, miles
M. A.	Master of Arts
Macc.	Maccabees
mach.	machinery
Mag.	Magazine
Maj.	Major
Mal.	Malachi
Mal.	Malay, Malayan
manuf.	manufacturing, manufacturers
Mar.	March
masc.	masculine
Mass.	Massachusetts
math.	mathematics, mathematical
Matt.	Matthew
M. D.	Doctor of Medicine
MD.	Middle Dutch
Md.	Maryland
ME.	Middle English, or Old English
Me.	Maine
mech.	mechanics, mechanical
med.	medicine, medical
mem.	member
mensur.	mensuration
Messrs. *or* MM.	Gentlemen, Sirs

metal	metallurgy
metaph.	metaphysics, metaphysical
meteor.	meteorology
Meth	Methodist
Mex.	Mexican
Mg	Magnesium
M. Gr.	Middle Greek
MHG	Middle High German
Mic.	Micah
Mich.	Michigan
mid.	middle (voice)
Milan.	Milanese
mid. L. *or* ML.	Middle Latin, Mediæval Latin
milit.	military (affairs)
min.	minute, minutes
mineral	mineralogy
Minn	Minnesota
Min. Plen	Minister Plenipotentiary
Miss.	Mississippi
ML. *or* mid L.	Middle Latin, Mediæval Latin
MLG	Middle Low German
Mlle.	Mademoiselle
Mme.	Madam
Mn	Maganese
Mo	Missouri
Mo	Molybdenum
mod.	modern
Mont	Montana
Mr	Master [Mister]
Mrs.	Mistress [Missis]
MS.; MSS.	manuscript; manuscripts
Mt.	Mount, mountain
mus.	music
MUS. DOC.	Doctor of Music
myth	mythology, mythological
N	Nitrogen
N. *or* n	North, -ern, -ward
n	noun
Na	Sodium [*Natrium*]
Nah.	Nahum
N. Amer.	North America, -n
nat	natural
naut.	nautical
nav.	navigation, naval affairs
Nb.	Niobium
N. Car.	North Carolina
N. D.	North Dakota
Neb.	Nebraska
neg	negative
Neh.	Nehemiah
N. Eng	New England
neut *or* n.	neuter
Nev.	Nevada
N Gr.	New Greek, Modern Greek
N. H.	New Hampshire
NHG	New High German (German)
Ni.	Nickel
N. J.	New Jersey
NL.	New Latin, modern Latin
N. Mex.	New Mexico
N. Test.	New Testament
N. Y.	New York [State]
nom.	nominative
Norm F.	Norman French
North E.	Northern English
Norw.	Norweigan, Norse
Nov.	November
Num.	Numbers
numis	numismatics
O.	Ohio
O.	Old
O.	Oxygen
Obad.	Obadiah
obj.	objective
obs *or* †	obsolete
obsoles.	obsolescent
O. Bulg.	Old Bulgarian or Old Slavic
Oct.	October
Odontog.	odontography
OE	Old English
O F *or* O. Fr.	Old French
OHG	Old High German
Ont.	Ontario
opt.	optics, optical
Or.	Oregon
ord.	order
ord.	ordnance
org.	organic
orig	original, -ly
ornith.	ornithology
Os	Osmium
OS	Old Saxon
O. Test.	Old Testament
Oxf.	Oxford
oz.	ounce, ounces
P.	Phosphorus
p.; pp.	page, pages
part.	participle
paleon.	paleontology
parl	parliament
pass.	passive
pathol	pathology
Pb	Lead [*Plumbum*]
Pd	Palladium
Penn	Pennsylvania
perf.	perfect
perh.	perhaps
Pers.	Persian, Persic
pers	person
persp.	perspective
pert.	pertaining to
Pet.	Peter
phar.	pharmacy
Ph D.	Doctor of Philosophy
Phen.	Phenician
Phil.	Philippians
Philem.	Philemon
philol.	philology, philological
philos.	philosophy, philosophical
photog.	photography
phonog.	phonography
phren.	phrenology
phys.	physics, physical
physiol.	physiology, physiological
Pied.	Piedmontese
Pl.	Plate
pl.	plural
Pl D.	Plattdeutsch
plup.	pluperfect
P M	afternoon [*post meridiem*]
pneum.	pneumatics
P. O.	Post-office
poet.	poetical

ABBREVIATIONS.

Pol.	Polish
polit.	politics, political
pop.	population
Port.	Portuguese
poss.	possessive
pp.	pages
pp.	past participle, perfect participle
p. pr.	present participle
pref.	prefix
prep.	preposition
Pres.	President
pres.	present
Presb.	Presbyterian
pret.	preterit
prim.	primitive
priv.	privative
prob.	probably, probable
Prof.	Professor
pron.	pronoun
pron.	pronunciation, pronounced
prop.	properly
pros.	prosody
Prot.	Protestant
Prov.	Provençal
Prov.	Proverbs
prov.	province, provincial
Prov. Eng.	Provincial English
Prus.	Prussia, -n
Ps.	Psalm, Psalms
psychol.	psychology
pt.	past tense
pt.	pint
Pt.	Platinum
pub.	**published, publisher, publication**
pwt.	**pennyweight**
Q.	Quebec
qt.	quart
qtr.	quarter [weight]
qu.	query
q. v.	**which see [*quod vide*]**
R.	**Rhodium**
R.	River
Rb.	Rubidium
rec. sec.	recording secretary
Ref.	Reformed
refl.	reflex
reg.	regular, -ly
regt.	regiment
rel. pro.	**relative pronoun**
repr.	representing
repub.	**republican**
Rev.	Revelation
Rev.	Reverend, The
Rev. V.	**Revised Version**
rhet.	rhetoric, -al
R. I.	Rhode Island
R. N.	Royal Navy
Rom.	Roman, Romans
Rom.	Romanic or Romance
Rom. Cath. Ch.	Roman Catholic Church
r. r.	railroad
Rt. Rev.	Right Reverend
Ru.	Ruthenium
Russ.	Russian
r. w.	railway
S.	Saxon
S.	**Sulphur**
s.	**second, seconds**
s. [l. s. d.]	shilling, shillings
S. *or* s.	South, -ern, -ward
S. Amer.	South America, -n
Sam.	Samaritan
Sam.	Samuel
Sb.	Antimony [*Stibium*]
s.c.	understand, supply, namely [*scilicet*]
S. Car.	South Carolina
Scand.	Scandinavian
Scot.	Scotland, Scotch
scr.	scruple, scruples
Scrip.	Scripture [s], Scriptural
sculp.	sculpture
S. D.	**South Dakota**
Se.	Selenium
sec.	secretary
sec.	section
Sem.	Semitic
Sep.	September
Serv.	Servian
Shaks.	Shakespeare
Si.	Silicon
Sic.	Sicilian
sing.	singular
sis.	sister
Skr.	Sanskrit
Slav.	Slavonic, Slavic
Sn.	Tin [*Stannum*]
Soc.	Society
Song Sol.	Song of Solomon
Sp.	Spanish
sp. gr.	specific gravity
sq.	square
Sr.	Senior
Sr.	Strontium
St. Ste.	Saint
st.	street
stat.	**statute**
S.T.D.	Doctor of Sacred Theology
subj.	subjunctive
suf.	suffix
Su. Goth.	**Suo-Gothic**
superl.	**superlative**
Supp.	**Supplement**
Supt.	**Superintendent**
surg.	**surgery, surgical**
Surv.	surveying
Sw.	**Swedish**
Swab.	**Swabian**
sym.	symbol
syn.	**synonym, -y**
Syr.	Syriac, Syrian
t.	**town**
Ta.	Tantalum
Tart.	Tartar
Te.	Tellurium
technol.	technology
teleg.	**telegraphy**
Tenn.	**Tennessee**
term.	termination
terr.	territory
Teut.	Teutonic
Tex.	Texas
Th.	Thorium
theat.	theatrical
theol.	theology, theological
therap.	therapeutics
Thess.	Thessalonians
Ti.	Titanium
Tim.	Timothy
Tit.	**Titus**
Tl.	**Thallium**

ABBREVIATIONS.

toxicol.	**toxicology**
tp.	**township**
tr. *or* **trans.**	**transitive**
transl.	**translation, translated**
trigon.	trigonometry
Turk.	Turkish
typog.	typography, typographical
U.	Uranium
ult.	**ultimate, -ly**
Unit.	**Unitarian**
Univ.	**Universalist**
Univ.	University
U. Presb.	United Presbyterian
U. S.	United States
U. S. A.	United States Army
U. S. N.	United States Navy
Ut.	Utah
V.	Vanadium
v.	verb
Va.	Virginia
var.	variant [word]
var.	variety of [species]
Ven.	Venerable
Venet.	Venetian
vet.	**veterinary**
v. intr.	**verb intransitive**
vil.	**village**
viz.	namely, to wit [*videlicet*]
v. n.	verb neuter
voc.	vocative
vol.	volume
vols.	volunteers
Vt.	Vermont
v. tr.	verb transitive
W.	Tungsten [*Wolfram*]
W.	Welsh
W. *or* w.	West, -ern, -ward
Wal.	Walachian
Wall.	Walloon
Wash.	Washington
Westph.	Westphalian
W. Ind.	West Indies; West Indian
Wis.	Wisconsin
wt.	weight
W. Va.	West Virginia
Wyo.	Wyoming
Y.	Yttrium
yd.	yard
yr.	year
Zech.	Zechariah
Zeph.	Zephaniah
Zn.	Zinc
zool.	zoology, zoological
Zr.	Zirconium

See also the title, ABBREVIATIONS.

ABYSSINIA, *ăb-ĭs-sin'ĭ-a* (from the Arabic name *Habesh*, 'mixture,' given on account of the mixed population), is that part of Eastern **Africa lying between 7° 30′ and 15° 40′ n. lat., and the** meridians of 35° and 40° 30′ e. long.; having Nubia on the n.w., the Red Sea on the n.e., the river Hawash on the s.e., and the Blue Nile on the s.w. The mountainous part of this tract forms the kingdom of A.; the chief divisions being Tigré in the north, Amhara in the centre, and Shoa in the south. Between the highlands and the Red Sea lies a low arid tract, which is inhabited by tribes distinct from the Abyssinians, and long claimed as belonging to Egypt. A., the area of which is about 200,000 sq. m. (more than a third larger than Great Britain), consists of a huge table-land with a mean elevation of 7000 feet. The declivity to the bordering tract on the Red Sea is abrupt; towards the Nile basin it is more gradual. The main mass has been cut into a number of castle-like sections by the streams, which have worn their channels into ravines of vast depth—as much sometimes as 4000 feet. Isolated mountains, with naked, perpendicular sides, present the most singular forms. The Samen Mountains have summits rising to the **height of 15,000 feet.**

In the later part of the tertiary age, A. must have been the theatre of enormous volcanic activity. That activity is now extinct, with the exception of thermal springs in the interior, and rare **eruptions on the coast of the Red Sea.**

As the main slope of the table-land is towards the w. and n.w., the chief watercourses flow to the Nile. The Abai, which flows through Lake Tzana, is an upper branch of the Blue Nile. The Tacazze, [illegible] the smaller Atbara, joins the Nile under the name of the Atbara, after a course of about 500 miles. The Mareb flows n.w. into Nubia, where it loses itself in the sand, or in time of flood reaches the Atbara. The Hawash takes its rise in the southern province of Shoa, and flowing in a northeasterly direction, falls into the Lake of Abhebad. The largest lake in A. is Lake Tzana, Tsana, or Dembea, 60 miles long, and in some places 650 feet deep. The mineral wealth of A. is believed to be great, but **has been little explored.**

The climate of A., notwithstanding its tropical position, is on the whole temperate and pleasant, owing to its elevation. The region called the Kollas, with an elevation of 3000 to 4800 feet, has a temperature of [illegible], with a tropical vegetation. The plains of moderate elevation, 5000 to 9000 feet, have a temperature of 60° to 80°, and are the chief seats of the population. The higher regions, from 9000 to 12,000 feet or over, have usually a day temperature of [illegible], but falling not seldom below freezing. The rainy season lasts [illegible] from April to September. During the [illegible] in all the higher regions, [illegible] never melts. In the river valleys and swamps the heat and moisture are suffocating and pestilential; in the low region towards the Red Sea, the air is glowing hot, **and dry.**

A., as a whole, is remarkably fruitful; and its productions are of the most **varied nature, from the pines, heaths, and lichens of** north Europe to the rarest tropical plants. Two, and in some places three, crops are obtained in one year. The banana tree, [illegible] lemon, cotton, and wild indigo [illegible]. The higher plateaus furnish rich pastures [illegible] barley. The chief industries are the rearing of cattle and the cultivation of grain. Among the wild animals, the most dreaded is the hyena, while the elephant [illegible] are found in the low grounds, and there are [illegible] in the rivers. Lions, panthers, and leopards **are not infrequent.**

The population of A., which numbers between three and four [illegible] the natives is formed [illegible] people, belonging to the **Semitic stock, and believed to be the descendants of immigrants from Arabia. The basis of the language is the ancient** Ethiopic or Geez, a Semitic tongue which is now [illegible] by the priests. Of the modern [illegible] province stands the nearest [illegible] Amharic [illegible] spoken also in Shoa, [illegible] is the prevalent language [illegible]. Since the beginning of the 16th **century, the** Gallas, an African people, have taken possession **of many dis-**

tricts. Jewish tribes, called Falashas, retain many of their Jewish peculiarities. In addition to agricultural and pastoral pursuits, the chief employments are the preparation of leather, the weaving of cotton cloth, and the working of copper and iron. There is little commerce. The centre of the interior traffic is Gondar, in Amhara. The chief seat of trade in Shoa is Ankobar. What foreign commerce there is passes through the port of Massowah. The chief town of Tigré is Adowa.

The religion of the Abyssinians proper is a debased Christianity; but the Gallas and other alien tribes are mostly Mohammedan, and partly also pagan. Abyssinian Christianity consists entirely in external observances; the people are abjectly superstitious and excessively lax in their morals. They observe many of the rites of Judaism, such as circumcision and the distinction of animals into clean and unclean. The marriage tie is very loose, and polygamy is not uncommon. Few except the priests are taught to read. Christianity was introduced in the 4th century by Frumentius (q.v.), who was consecrated Bishop of Abyssinia by the Patriarch of Alexandria. Ever since, the church of A. has adhered to the mother church of Egypt, and with her adopted the Monophysite (q.v.) doctrine; and the metropolitan bishop or abuna continues to be nominated by the Coptic Patriarch (see Copts). The Bible was early translated into the Geez. They have no other literature except some legends of saints. The general ignorance does not exclude religious controversy, and fierce dissensions prevail. There are numerous fasts and feast days. Drinking of beer and mead is carried to excess. Beef is eaten raw, and, if possible, while yet warm. The custom reported by Bruce, of cutting a steak from a live cow, is still not unknown.

History.—The native annals of A., tracing their kings from Menilek, the son of Solomon by the Queen of Sheba, down to recent times, are manifestly fabulous. The real history begins with the kingdom of Axum (see Axum, Ethiopia). Christianity was introduced in the 4th century. Under the Axumite rulers A. attained its greatest extent and prosperity in the 6th century, when it embraced Yemen in Arabia. But by the conquests of the Mohammedans in the following century, the frontiers were driven back to the limits of the table-land; and the Abyssinians were cut off from intercourse with the rest of the world. During these struggles the capital was removed from Axum to Gondar, where the monarchs dignified themselves with the title (assumed about the end of the 13th century) of Negus Negest za Ityopia ('king of kings of Ethiopia'). With the 16th century began the irruptions of the warlike Galla tribes from the interior of the continent, who committed fearful devastations. The search for the kingdom of Prester John (q.v.) brought the Portuguese in contact with A. in the end of the 15th century. The design was then formed of converting the Abyssinians to the Catholic church. With this view an embassy was sent to the Negus (1520), and at last, about the beginning of the 17th century, the negus formally submitted to the Roman Church. The body of the people, however, looked upon it with aversion; and in 1634, the monarch was obliged to resign in favor of his son, who banished or executed the Catholic priests.

The monarchs lost all control over the great chiefs, who set up as independent rulers in their several provinces. At length Michael Sohul, the ruler of Tigré, put the reigning emperor to death (1769), and setting up a member of the royal family as nominal sovereign, exercised at Gondar the powers of sovereignty under the name of Ras or prime minister. Ras Michael was soon driven from power by a Galla chief, who acquired the dominion of Amhara and the control of the emperor's person, and transmitted his power to [illegible] Ras Ali, held sway in Amhara as viceroy [illegible] the adventurer Kassai [illegible] began to excite [illegible] Kwara, a province [illegible] governor. After the uncle's death, [illegible] the Ras, compelled his recognition as governor, [illegible] Ali's son-in-law. In 1853 he crushed the Ras, and two years later, after completely defeating the prince of Tigré, he was formally crowned by the Abuna as Negus [illegible] Theodore. He then subdued the [illegible] and conquered Shoa. He was now master of the whole of [illegible], with greater power than was ever wielded by a Negus. This was the acme of his fortunes, which henceforth began to decline. At first he ruled prudently and with moderation, being chiefly guided by two Englishmen, Mr. Plowden and Mr. Bell, who had become resident in the country, and the former of whom had been appointed consul. But after he lost his two counsellors (who were killed in an attack by a rebel chief in 1860), his rule became more and more tyrannous. The enormous army (as many at one time as 150,000 out of a population of three or four millions) exhausted the resources of the country. One province after another rose in rebellion, unable to bear the exactions; and these insurrections were suppressed with unheard-of rigor.

Theodore had made several attempts to procure the active alliance of England and France against the Mussulman powers; and as all his efforts had failed, he now began to entertain hatred towards Europeans. When Captain Cameron went to A. in 1862 as consul, Theodore gave him a letter to Queen Victoria, of which, by some neglect, no notice was taken. A similar letter to the Emperor of the French received an answer, but not from the emperor himself; and these circumstances so enraged Theodore that he began to maltreat the consuls and their servants, and kept them prisoners along with the missionaries and other Europeans in his dominions. The British Government in 1864 sent envoys to Theodore with a royal letter and presents, to treat for the release of the prisoners. The negotiations failed, and the three envoys were put in irons, and shut up along with the other prisoners in the fortress of Magdala. A British military expedition was now resolved upon, and General (afterwards Lord) Napier was chosen as chief. The troops consisted of 16,000 men of all arms, while the transport service and camp followers numbered at least as many more. The place of landing was Annesley bay, and in 1867, April 9, they reached Magdala. They had met with no obstruction from the inhabitants, who rather welcomed them as deliverers from the common enemy. In the mean time, Theodore had occupied the fort with 5000 or 6000 men, three weeks before the arrival of the British. On April 10, 5000 Abyssinians rushed down upon a British detachment of 1700 men in the plain below the fort, but their repeated assaults were repulsed with great loss. Theodore sued for peace, and released the prisoners; but as he declined to surrender, the fort was stormed and taken on the 13th. Theodore was found dead: he had shot himself. The fort being demolished, the British forces were entirely withdrawn. The expedition cost the British nation nearly nine millions sterling.

The departure of the British was the signal for a renewed struggle among the Abyssinian chieftains for the supremacy. Prince Kassai of Tigré, who had been of great service to the British, vanquished his most powerful rival, and had himself crowned Emperor of Abyssinia, in 1872 assuming the name of John; but failed to establish his rule over the whole country. He made repeated but vain attempts to get European help against the Egyptians, with whom A. had been at enmity since 1860. In 1875 the Khedive sent a small force; but they fell into an ambuscade, and were all massacred. In the same year, a second expedition of 1600 men was sent against the Abyssinians, and a short sanguinary campaign followed, in which both parties lost so heavily that each was compelled to retire, and the frontier difficulties continued until the Soudan was evacuated by Egypt in 1884. In 1885 the Italians occupied Massowah, but they did not succeed in establishing friendly relations with the Abyssinians. In 1887, Jan. 26, three companies of Italian soldiers were attacked by the Abyssinians, and, notwithstanding their gallant resistance, all were slaughtered, with the exception of ninety wounded who managed to make their way back to Massowah. A series of conflicts between the Abyssinians and Italians occurred at Massowah during 1887-8, and, in March, 1889 a war broke out between King John and King Menelek, in which the former was killed and the latter assumed the title of Negus. King Menelek sent a special mission to King Humbert, and in October following Italy formally assumed a protectorate over A. In March, 1890, the text of the treaty between Italy and A. was made public. See, besides the works of Bruce and the brothers Abbadie, [illegible] Abyssinia, Markham's History of the Abyssinian Expedition (1869), and Holland and Hozier's report (1870).

AFGHANISTAN, *âf-găn'ĭs-tân':* the country lying to the n.w. of India. Its boundaries are, on the n. the Oxus or Amu Daria, from its source in Lake Victoria or Sir-i-Kul to Khoja Saleh, and thence a line drawn across the Turkoman desert southwestward to the Murghab, passing south of Panjdeh, and touching the Hari Rud at Zulfikar. This line has been demarcated in accordance with the London protocol of 1885 and the St. Petersburg treaty of 1887. On the n.e., A. is bordered by a mountainous region, inhabited by tribes of various nationalities, but for the most part speaking Afghan dialects, and settled in the fertile but almost inaccessible valleys of the Upper Indus and its tributaries. On the e. the frontier runs along the eastern foot of the Suliman mountains, but here again some of the tribes are almost independent, and the Indian government controls the more important passes. On the s., a line passing north of Quetta in about the 30th parallel of n. lat., divides A. from the territory of the khan of Kalát and Beluchistan; while on the w. the meridian of 61° e. long. would approximately define the boundary with Persia. Within these limits, A. extends 600 miles from n. to s., and 600 miles from e. to w., and contains an area which may be roughly estimated at 240,000 sq. m., or about twice the size of Great Britain and Ireland. This includes Badakhshan and Wakhan in the n.e., and Afghan Turkestan in the n., comprising the Uzbeg States of Balkh, Kundúz, Maimana, Shibarghan, Khulm, Akcha, and Andkhúi, owning allegiance and paying tribute to the Ameer. A. may be divided into the three great river basins of the Oxus, the Indus, and the Helmand. (1) Oxus basin. The northern slopes of the Hindu Kush are drained by a number of rivers flowing northwards towards the Oxus; only two, however, the Kokcha and Kunduz, reaching that river, while the remainder are either absorbed in irrigation, or disappear in the sands. The westernmost of the series, the Murghab and Hari Rud, are of great importance, owing to the geographical position and fertility of their valleys, affording two lines of approach to Herat from the north. (2) The Indus basin includes the great basin of the Kabul itself and its tributaries, draining the southern slopes of the Hindu Kush and the northern valleys of the Safed Koh; the basin of the Kuram, commanding a well known approach to Kabul from the Indian frontier at Thal; and the streams issuing from the Waziri hills and Suliman range. (3) The Helmand, with its three great tributaries, the Argandab, Tarnak, and Arghastan, drains all southwestern A. A. is for the most part an arid, mountainous country, and cultivation is only met with in some of its valleys.

According to Holdich, the principal mountain systems of A. are the Hindu Kush, with its westerly continuations, the Koh-i-Baba, Paghman, Safed Koh, and Siah Koh. The Hindu Kush takes its rise in the n.e., where it abuts on the northwestern end of the Himalayas in a group of magnificent peaks, rising to a height of 23,000 feet above the sea. Hence it extends in a southwesterly direction to the Khawak Pass as a single range of great height. Farther w. it diminishes in altitude, and divides into a system of parallel chains, with high plateaus and valleys between them. The Safed Koh, not to be confounded with the range of the same name in northwestern A., divides the Kabul from the Kuram, and has no geographical connection with the Hindu Kush, while the Suliman hills form the edge of the plateau on the Indian side. The climate of A. is as diversified as its physical configuration. At Ghazni (7,5[illegible] feet) the winter is extremely rigorous and for several months the inhabitants are snowed up in their houses. At Kabul ([illegible] feet) the cold is severe for two or three months, but the summers are temperate. At Kandahar the winters are milder, but the heat in summer is intense, 110° in the shade. The climate of Seistan, in the s.w. of A., is hot and trying, while that of Herat, in the n.w., is temperate, though here, as in other parts of A., violent northwesterly winds and dust-storms are frequent.

Fevers, intermittent and remittent, and diseases of the eye, are among the most common complaints of the Afghans. The population of A. is composed of a variety of nationalities, and is estimated at about 4,90[illegible]. The Afghans proper or Pathans number about [illegible], and are divided into tribes or clans: Duranis, Ghilzais, Yusufzais, and others. The Duranis are the dominant tribe, the Ghilzais the largest and most warlike, the Yusufzais, the most turbulent. Of the non-Afghans, the Tajiks are probably the most numerous, and are the agricultural and industrious pop tion of the population; the Hindkis and Játs chiefly live in the towns, and are traders; the Kizilbashes are Turko-Persians, and form the more educated and superior class; while the Hazáras, a race of Mongol origin, in the mountainous districts on the n.w. of A. proper, are nomads. The Afghans claim descent from King Saul, and call themselves 'Bani Israel;' but though their features are of a Jewish type, and some of their customs have a curious analogy to those of the Jews, their language—the Pakhtu or Pushtu—has no affinity with the Semitic tongue, but rather belongs to the Aryan family. In religion they are Sunni-Mohammedans. In character they are proud, vain, cruel, perfidious, extremely avaricious, revengeful, selfish, merciless, and idle. 'Nothing is finer than their physique, or worse than their morale,' says an intelligent observer.

The Afghans do not as a rule inhabit towns, except in the case of those attached to the court and heads of tribes. The townsmen are mostly Hindkis and other non-Afghan races, who practise various trades and handicrafts considered derogatory by men of rank. The houses or castles in the country are all inclosed by high walls, and contain three or four different courts, laid out in gardens, with ponds and fountains, much the same as in Persia and Turkestan. The principal towns are Kabul (population 140,000), the seat of government and centre of a fertile district; Ghazni, a strong fortress; Kandahar, the chief city of southern Afghanistan, with 30,000 inhabitants; and Herat, formerly considered the key of India. Among towns of secondary importance are Charikar, Istalif, 20 miles n.n.w. of Kabul, and Farhin Seistan.

Among the natural productions of A. is the plant yielding the asafœtida. The castor-oil plant is everywhere common, and good tobacco is grown in the district of Kandahar. Aitchison says that the cultivated area round Herat produces magnificent crops of wheat, barley, cotton, grapes, melons, and the mulberry-tree; the production being only limited by the amount of labor procurable. Surrounding the villages, and in orchards, the ash, elm, apricot, apple, plum, quince, peach, and pomegranate are cultivated; the sanjit (*Elæagnus orientalis*), yielding an edible fruit, and the zizyphus are indigenous. In special localities are forests of pistachio, its leaves being used in dyeing. The general appearance of the country during winter is barren and arid in the extreme, owing to the absence of trees and woody shrubs; but in spring a mass of vegetation springs up, giving a grand coloring to the landscape. The industrial products are silk, chiefly for domestic use, and carpets, those of Herat being of admirable quality. The manufacture of *postins*, or sheepskins, is one of the most important of the industrial occupations of the people, and of late years the trade in this article has greatly increased. A. is crossed by several trade-routes leading to India on the one side, and to Persia and Turkestan on the other; merchandise, however, is all transported on camel or pony back. Commerce suffers much from frequent wars and bad government. There is, however, some export of Afghan productions, particularly carpets to India; and Indian textile fabrics meet with a ready sale in Abyssinia.

The history of A. as an independent state only dates from the middle of the 18th century. For two centuries before, Herat and Kandahar had been in the possession of Persia; while Kabul was included in the Mogul empire of Delhi. Upon the death of Nadir Shah in 1747, Ahmed Shah Durání subjugated the different provinces, and when he died, in 1773 left an empire to his son, Timur Shah, extending to the sea of Oman on the s., and on the e. to the mountains of Tibet, the Sutlej, and the Indus. Timur Shah reigned twenty years, and dying in 1793, left thirty-six children, of whom twenty-three were sons. The rivalries and jealousies among these princes or sirdars, their attempts to concentrate absolute power in their own hands, their turbulence, cruelty, and treachery, kept A. in a constant state of warfare, and led to the interference, first of Persia and then of the British. In 1809 Mountstuart Elphinstone was sent as ambassador to Kabul, and concluded a treaty with Shah Shuja, son of Timur Shah, at Peshawar. Shah Shuja soon afterwards abdicated, and his brother, Mahmud Shah, took possession of the throne. His vizier, Futteh Khan, restored prosperity to A. for a while, but was blinded and afterwards murdered. His death was avenged by his brothers, the ablest of whom, Dost Mohammed, made himself master of Kabul in 1826.

In 1834 Shah Shuja made an effort to recover his throne, and entered A. with an army of 20,000 Afghans and Hindustanis, but was defeated by Dost Mohammed. The siege of Herat by the Persians in 1837, when it was successfully defended, mainly through the exertions of Lieutenant Eldred Pottinger, and Dost Mohammed's signal victory over the Sikhs, attracted the serious attention of the British government. Lord Auckland, then governor general, declared war against A. in 1838, on the grounds that Dost Mohammed had unlawfully attacked the British ally, Runjit Singh; that the military operations of the Afghans had betrayed a hostile purpose towards India, and that Shah Shuja, as the rightful heir to the Afghan throne, had placed himself under British protection. It was designed to establish a friendly power in A., which should form the first line of defense against the threatened advance of Russia on India. In pursuance of this policy, 1839, Jan. 16, an army of 21,000 men, under the command of Lieutenant-general Sir John Keane, crossed the Indus, advanced without opposition through the Bolan Pass, and took possession of Kandahar. Ghazni was taken after some hard fighting, and on Aug. 7, the Anglo-Indian army entered Kabul, where Shah Shuja was proclaimed Ameer. Dost Mohammed, deserted by his forces, retired beyond the Hindu Kush, and the conquest was regarded as complete. Sir William Macnaghten and Sir Alexander Burnes were established at Kabul as British political agents; and a body of Anglo-Indian troops was stationed there under General Elphinstone.

Events, however, soon showed that the British had altogether mistaken the character of the Afghans. Though Dost Mohammed had surrendered, his son Akbar Khan was actively engaged in a conspiracy, and 1841, Nov. 2, an insurrection, caused, it is said, by the reduction of subsidies to the Afghan sirdars, broke out at Kabul. Burnes and his brother were hacked to pieces with Afghan knives, Macnaghten was treacherously shot seven weeks later at a conference with the Afghan sirdars, several British officers were slain, and the Anglo-Indian army, after being besieged in cantonments for sixty-five days, capitulated. It was then agreed that they should leave the country, and that Akbar Khan and his confederates should make arrangements for their retreat, and provide an escort. Depending on these promises, the British troops left Kabul, 1842, Jan. 6, to return to India; but neither escort nor provisions were supplied, and the severity of the season increased the misery of the retreat. The fanatical tribes of the district harassed them on all sides, and out of 16,500, of whom 12,500 were camp-followers, only one man (Dr. Brydon) escaped to carry the dismal tidings to General Sale at Jelalabad. To retrieve this disaster, General Pollock, in September 1842, advanced on Kabul, routed Akbar Khan, and, having inflicted punishment on the Afghans and rescued the English officers and ladies who had surrendered themselves as prisoners, led his army back to India.

Henceforward the policy of the new governor-general, Lord Ellenborough, was to be one of non-interference in the affairs of A., and it was hoped that the Afghans would keep the peace. Soon afterwards, however, forming an alliance with the Sikhs, they assisted them in their war against the British till a crushing defeat was inflicted on their combined forces by Lord Gough, at the battle of Guzerat, 1849, Feb. 21, and Dost Mohammed fled across the Indus. 1855, March 30, he concluded a treaty with the British, and in 1863, soon after the capture of Herat, which he had besieged for ten months, he died, and was succeeded by Shere Ali Khan, one of his younger sons. At first the succession was acquiesced in by the other brothers, but disagreements soon arose, which for many years kept A. in a state of anarchy, and at one time the fortunes of the Ameer Shere Ali Khan were at a low ebb. The loss of a favorite son at the battle of Kajbaz, 1865, June 6, affected him so seriously that he ceased to interest himself in public affairs, and remained at Kandahar, while his brothers, or half brothers, Mohammed Afzul Khan and Mohammed Azim Khan, with Abdul Rahman Khan, the son of the former, were gaining repeated successes, and alienating the country from his rule. The capture of Kabul at length aroused him to action. Taking the command of his forces in person he led them against the intrenched position of the enemy; but notwithstanding the impetuosity of the assault and his personal gallantry, he was defeated and fled with a small following towards Ghazni and Kandahar. Other attempts to restore his fallen fortunes were equally unsuccessful, and it was not till 1868 that he at length regained possession of Kabul. In that year he received assistance from the viceroy of India, Sir John Lawrence, to secure the position for which he had fought so hard. The next viceroy, Lord Mayo, met the Ameer in state at Ambála, in March, 1869. At this meeting, it was explained to him that Her Majesty's government had no desire to interfere with the affairs of A., except to check civil war, and by so doing to secure the peace and prosperity of the country. This intimation was accompanied by another large present.

In 1870, the Ameer's eldest son, Yákúb Khan, who had shown great ability as governor of Herat, and had, on many occasions, given his father valuable assistance, broke into open rebellion against him. In 1873, Abdulla Ján was proclaimed heir-apparent, and in 1874 Yákúb was imprisoned by his father at Kabul. For some time previous to 1878 there had been an estrangement between Shere Ali and the British government; he had then made overtures to Russia, and had welcomed at his capital a Russian mission. In consequence of these new relations with Russia, Shere Ali was invited to receive a British mission; his refusal led, after some fruitless negotiations, to war, and hostilities began by forcing the entrance to the Khyber Pass towards the end of November. Severe fighting followed, but the English were everywhere successful. Before the end of December, Jelalabad was occupied without resistance, and Kandahar a little later. Shere Ali fled from Kabul for Turkestan, and died at Mazar-i-Sharif towards the end of February, 1879. Yákúb Khan was proclaimed Ameer in the following month, and on May 26 signed a treaty of peace with the British at Gundamuk. It was provided that our representative should reside at Kabul, and that the British government should defend A. from foreign aggression, the Ameer receiving a subsidy; whilst the Kuram, Pishín, and Sibi valleys, the Khyber and Michni passes, were to remain under the control of the British government as part of a line of scientific defensible frontier for India. This settled matters for a time, but in September of the same year the revolted troops of the Ameer surrounded and attacked the British residency. The Resident, Sir Louis Cavagnari, and his staff, with almost the whole of their Indian guard, were cut to pieces, after a desperate and gallant resistance. Measures were immediately adopted for punishing this outrage. Sir F. Roberts, with a force of over 6000 men, after defeating the Afghans at Charásia, 12 miles from Kabul, on October 6, took possession of that city on the 12th, when Yákúb Khan abdicated, and put himself under British protection. All went well for two months, but early in December there were gatherings of the tribes in the neighborhood of Kabul. Attempts to disperse them were defeated, and the British were beleaguered for ten days in their cantonments at Sherpur. The arrival of reinforcements, under General Gough, enabled them once more to take the field, and the war was continued in a desultory way.

In June, 1880, Ayub Khan, a younger brother of Yákúb Khan, the ex-Ameer, proclaimed a *ghazi* or holy war, and announced his intention of marching on Kandahar, then in the possession of the British. A brigade under Brigadier-general Burrows was sent against him. On July 27 Burrows marched to attack Ayub at Maiwand, and was completely defeated, with the loss of over 1000 killed and wounded. A second reverse followed in August, when Brigadier-general Brooke's column was attacked, and had to retire with heavy loss, that officer being killed. Abdul Rahman Khan, who had been a pensioner of the Russian government in Samarkand from 1870 to 1880, in the mean while had come to terms with the British government, and had in July been recognized as Ameer. The withdrawal of the army of occupation had been decided on, when news of the Maiwand disaster was brought. To avenge this, General Roberts marched with a force from Kabul on August 9, and reached Kandahar on the 31st. On the following day he totally defeated Ayub Khan, the Afghan camp, artillery, and baggage falling into his hands, whilst Ayub himself escaped with a handful of horse. Before withdrawing, the British troops reduced to submission some refractory tribes, and completed the evacuation of A. by the end of April, 1881. Abdul Rahman Khan, with the assistance of the British government, made himself master of the whole country.

Russia's proposal, in 1882, to delimit the frontier of A. was received coldly in England. In July, 1884, however, a commission was appointed to demarcate the boundary between A. and the territory of the Turkomans. General Sir Peter Lumsden was nominated by the British government, and General Zelenoi by the Russian. The line on which the commissioners were to be engaged was from Kwája Sala on the Oxus to Sarakhs. But after the annexation of Merv and the preliminary surveys of M. Lessar, in the valleys of the Kushk and Murghab, the Russian authorities took a different view. They contended that the Paropamisus was the true boundary of Herat, and that the district of Badghis, inhabited by Saryk Turkomans, who had proffered their allegiance to the Czar, lay outside Afghan territory. Questions of such grave moment, it was further stated, required to be settled by the two European governments before the commissioners could enter on their duties, and General Zelenoi was, without further explanation, sent to Tiflis. General Lumsden waited for him for four months on the Murghab, with an escort of 500 men, besides followers. In the mean while, the Russian outposts were advanced so as to include part of the debatable land. By their occupation of Zulfikar, 50 miles south of Pul-i-Khatum, the outposts of the two nations were brought into immediate contact, and it was only through the urgent remonstrances of General Lumsden that a collision was avoided. Matters were farther complicated by the attack on Panjdeh, near the fork of the Kushk and Murghab rivers, by a force under the command of General Komaroff, 1885, March 30, and by his seizure of this important strategical position. During 1886 the demarcation of the frontier was proceeded with, and in April, 1887, the British and Russian commissioners met at St Petersburg. After somewhat protracted negotiations, an agreement was effected, resulting in a compromise of the points at issue, concessions having been made on both sides. Russia obtained the valleys south of Panjdeh for nine or ten miles in the direction of Herat; on the other hand, the Ameer of Bokhara waived his claims to the pasture lands on the left bank of the Amu Daria, south of Khoja Saleh. Russia now touches the northwestern frontier of A., and has developed her railway communication in this direction with extraordinary rapidity. Meanwhile Britain has fortified and garrisoned Quetta in Beluchistan, on the southern frontier of A., and connected it with India by a railway extended (1887) as far as Pishin. In 1887 troubles arose between the Ameer and rebellious Ghilzáis and other subjects, and severe struggles took place. In January, 1888, the Ameer's troops gained a victory over Shinwarris, and later the Ameer ordered the execution of a number of Ishak's partisans. A rebellion in the province of Badakshan toward the close of the year was suppressed. During 1890 explorations and surveys were conducted both by Russian and British or Anglo-Indian officials; and it was reported that the English had restored the fortifications of Shah-i-Doulla Chodja, placed Cashmere troops there, and thus gained control of the immense and fertile basin of the Rashkem Daria.

See Elphinstone's Caubul (1815); Kaye's History of the War in Afghanistan (1851; 4th ed. 1878); Bellew, Afghanistan and the Afghans (1879); Yate's Northern Afghanistan; and Reports by Lumsden and Macgregor.

AFRICA, *ăf′rĭ-kă*, a continent of the eastern hemisphere, forming a south-western extension of Asia, to which it has been attached since Eocene times by the narrow isthmus of Suez, now pierced by a canal 90 m. long. A. is thus constituted an insular mass of irregular triangular shape, with base on the Mediterranean, and apex at the junction of the Indian and Atlantic waters, which bathe its eastern and western shores respectively. From Cape Blanco (37° 19′ 40″ n.) at Bizerta, Tunis, to Cape Agulhas (34° 51′ 15″ s.) in Cape Colony, it stretches across 72° of lat., or about 5,000 m., disposed nearly equally on both sides of the equator. The extreme eastern and western points are Capes Guardafui (51° 14′ e.) on the Indian ocean, and Verd (17° 32′ w.) on the Atlantic, a distance of about 4,500 m. But owing to the sudden contraction of the land at the gulf of Guinea (4° 30′ n.), whence, like both Americas, India, and other peninsular masses, it tapers continuously s., the total area is considerably less than would seem to be indicated by these extreme distances. Including Madagascar and adjacent insular groups, it cannot be estimated at much more than 11,750,000 sq. m., or some 4,250,000 less than Asia or America. Of all the continents except Australia, A. is the most uniform, heavy, and monotonous in its general outlines, unbroken by any bold projections seaward except the blunt Somáli peninsula, unrelieved by broad estuaries, bights, or inlets of any kind penetrating far inland, diversified only by the gulfs of Cabes and Sidra (the Great and Little Syrtes) on the Mediterranean, by the Bight of Biafra at the head of the gulf of Guinea on the Atlantic, and by the Gulf of Aden, Red sea, and gulf of Suez, separating it on the e. side from the Asiatic mainland. Hence, although about three times larger than Europe, its coast line scarcely exceeds 15,000 m., as compared with the 19,000 of that more highly favored continent.

Islands.—Geologically, A. is nearly destitute of insular groups, almost the only islands that belong physically to the mainland being Jerba and one or two islets in the Mediterranean, and a few, on the e. side, such as Socotra, the "spear-head" of the Somáli peninsula terminating at Cape Guardafui, and, farther s., Pemba, Zanzibar, and Mafia, almost forming parts of the adjacent coast. Perim, Dahlak, and a few others in the Red sea, are mere coral reefs, dominated here and there by volcanic crests. The Comoro group between Madagascar and Mozambique is also volcanic; while Madagascar itself and the outlying Mascarenhas (Mauritius, Réunion, and Rodriguez) appear to be surviving fragments of a Miocene continent, now flooded by the waters of the Indian ocean. On the w. side, the little Bissagos group alone forms a geological dependency of the mainland. Annabon, St. Thomas, Prince, and Fernando Po, in the gulf of Guinea, as well as Madeira, the Canary, and Cape Verd archipelagoes, are all of volcanic origin, the latter being separated by profound abysses of over 3,000 ft. from the continental basis. St. Helena and Ascension are mere rocks lost amid the Atlantic waters.

Relief of the Land.—Corresponding with the somewhat shapeless and uniform continental contour is the generally monotonous character of the interior. A. is relieved by no great central highlands or conspicuous water-partings at all comparable to those of the other great continental regions. Although still far from completely explored, the heart of the continent is already sufficiently understood, at least in its main features, to be here indicated. We now know that the somewhat picturesque generalization, which compared it to "an inverted basin," gives a very inadequate, if not positively misleading idea of its true configuration. The outer rim of mountain-ranges is not nearly so continuous and uniform as this comparison would imply; while the interior is disposed not in one vast elevated plain, but in two well-marked sections, the southern a tableland with a mean altitude of over 3,500 ft., the [illegible] elevated plain with a [illegible] Owing to this generally high altitude and the almost total absence of extensive low-lying plains, such as the Russian steppes and Siberian tundras, Africa, notwithstanding the absence of [illegible] like the European Alps and Pyrenees [illegible] nevertheless a greater mean [illegible] 2,000 ft. Chavanne) than either Europe (1,000), or even Asia (1,650).

A [illegible] from the Cameroons to the Benue and sweeping round [illegible] clearly established by the independent measurements of Denham and Clapperton, Barth, Vogel, Nachtigal, and Lenz for the northern, Speke, Burton, Livingstone, Stanley, and Andersson for the southern section. From these records it appears that between Tripoli on the Mediterranean, and the Lake Tsad depression in Central Sudan, or Sudan (850 ft.), the mean for the Central Sahara ranges from 1,200 to 1,400 ft., falling in Sudan generally somewhat lower. Corresponding with these heights are those of Khartum at the confluence of both Niles in the e. (1,240), and Timbuktu at the great w. bend of the Niger in the w. (820). In the s., the plateau between the coast range and Lake Tanganyika maintains a uniform elevation of about 4,000 ft., with which may be compared Lake Dilolo, on the Upper Zambesi (4,740); Linyanti, near the w. bend of the same river (3,500); Lake Ngami (2,700); the Kalahari Desert (3,500); Bushman Flats, s. of the Orange r. (3,000). The rapid descent from the plateau to the n. plain is well marked toward the e. of the continent by the Somerset (Victoria Nile), which in the short course of 90 miles between the Victoria and Albert Nyanzas, falls from 3,800 ft., the level of the upper to 1,500 ft., the level of the lower lake, no less than 2,300 ft. altogether.

Orography. The s. plateau is intersected by several mountain-ranges, very little or not at all explored, but apparently nowhere developing any vast orographic system. Such are the Lokinga (Muchinga) mountains, running e. and w., and forming a distinct divide between the head waters of the Lualaba (Congo) and the streams flowing s. to the Zambesi. Farther n., another important water parting between the Congo and Nile basins is formed by the Ulegga range, and its n. extension along the west side of Lakes Mwutan Nzigé and Albert Nyanza, with e. spurs dominated by the lofty and apparently volcanic Mfumbiro (10,000) and Gambaragara (15,000), which intervene between the Mwutan Nzigé and Victoria Nyanza. East of this basin rise the double-peaked Kilima-Njaro (18,881) and Kenia (18,000), the culminating points of the whole continent. Here the Aberdare range (14,000) runs s. and n. between Kenia and Lake Naivasha in the direction of Lake Baringo, long supposed to be one of the great equatorial lakes, but found by Thomson to be a small land-locked basin, 3,217 ft. above sea-level, commanded on the n.w. by Mts Chibcharagnani (9,000) and Lagonyi (11,000). The whole of this newly discovered inland region, where the native reports of still active cones, such as the Donyo Nl'buru or Smoky mountain, have recently been confirmed by [illegible], seems to merge through the Kaffa Hills n. in the Abyssinian uplands (10,000 to 15,000), which form the n.e. limit of the great s. plateau. From this point the outer, continental rim or coast range stretches almost continuously through Galla Land, and along the e. side of Lake Nyassa, s. to the Nieuwveld system (8,000 to 10,000) at the s. extremity of A. These e. coast ranges spoken of by the early Portuguese explorers under the collective name of *Lupata* may in some respect be regarded as forming, if not a backbone, at least the border chain of one great continental highland system. The corresponding w. coast ranges are both much lower and less continuous, being interrupted by wide gaps in Damaraland, and especially on the n.w. coast between the Senegal river and Morocco. They culminate in the Cameroons (13,000), at the head of the gulf of Guinea, and in the so-called Kong mountains of Upper Guinea, and elsewhere often present the appearance rather of outer scarps than of ranges actually rising above the inner tablelands.

The Atlas system (8,000 to 12,000), stretching in the extreme n.w. between Cape Nun over against the Canaries and Cape Bon over against Sicily, runs parallel to the Sierra Nevada on the opposite coast, with which it forms a distinct physical region. [illegible] remark that this part of A. belonged physically to Europe has been amply confirmed by modern research, which clearly shows that even in [illegible] times Mauritania was still connected with Iberia at the Strait of Gibraltar, and with Italy through the continuation of the [illegible] Pantellaria, Malta, Gozo, [illegible], and the Lipari group [illegible] [illegible] [illegible] [illegible] Mediterranean [illegible] outlet to [illegible] the depression still marked by the Kebir and Melghir sebkhas, and the valley of the river Draa. To this extent the Saharian sea may have been [illegible] geological researches of Oscar Lenz and other recent observers. We now know that the Sahara is a vast elevated plain, somewhat higher than the Sudan (see above), and that it consisted of well-watered and fertile lands, obliquely intersected by a great divide (the Tibesti Highlands), whence flowed mighty streams, such as the Igharghar n. to the Mediterranean, the Messawara s. to the Niger, and others e. to the Nile. In some of the pools lying along the sandy beds of these rivers, the crocodile still survives, while the elephant, as well as the camel, formed part of the Mauritanian fauna within the historic period. In fact, the Sahara was what the Sudan still is—a thickly peopled land, abounding in natural products, diversified with broad belts of tropical forests, arable tracts, and grassy steppes, according to the nature of the soil, and greater or less abundance of moisture. This is also the general character of the great s. tableland, which, like the n. plain, has also in the Kalahari its desert zone, both corresponding to similar arid regions, such as the Gobi, the Turkestan, Persian, and Arabian sands, the salt plains of Utah, the Australian and Bolivian wastes, all somewhat symmetrically disposed on either side of the equator, and due to cosmic or atmospheric causes, which have not yet been clearly elucidated.

In its geological constitution, A. presents the appearance of great stability and antiquity. Unlike those of other continents, the seaboard is subject to scarcely any movements of upheaval or subsidence, except on the n.e. coast between the Nile delta and the gulf of Sidra (an area of subsidence), and parts of the Moroccan and Red sea coasts (areas of upheaval). Earthquakes are confined mainly to the Atlas, which belongs physically rather to Europe than A., and igneous disturbances are restricted on the w. side to the Bight of Biafra (the Cameroons, Fernando Po, and other adjacent islets). But on the e. side the volcanic system is much more highly developed, stretching from the Comoro islands through Masai Land (Kilima-Njaro, Kenia, Elgon, etc.), n. to the Danákil country, and the volcanic islets in the Red sea. The lava fields of the Masai plateau appear to be the most extensive on the continent, and at many points present signs of recent activity. But elsewhere the old plutonic prevail immensely over the more recent eruptive rocks, just as the older sedimentary do over the later tertiary and quaternary formations. Both orders appear to be generally intermingled, and largely associated with semi-crystalline and metamorphic forms, such as the schists, gneisses, graywackes, and hornblendes, about Kilima-Njaro and many other places. The Karagwa Range [illegible], n.e. to Victoria Nyanza, is essentially metamorphic (white striated felspar, quartz, and black mica), while shales and flaggy sandstones form the geological basis of the e. African [illegible] series, which extends in a narrow strip from near the equator continuously to the cape. Hard granite forms the bed of the [illegible] river, and asbestos, soapstone, coal, iron, and copper were among the specimens collected by Farini in the Kalahari steppe. Metamorphic rocks, again, prevail in the Congo basin, where iron and copper ores also abound, and where plutonic systems succeed above Stanley Pool (Johnston). Syenite, and other granites, with old sandstones, are the characteristic features of Upper Egypt and the Nubian steppe, while Abyssinia has also a granitic base underlying dolerites, trachytes, and crystalline slates. But here the e. slopes, skirted or traversed by the great volcanic zone, are strewn with obsidian, pumice, and other recent lavas.

A great alluvial plain stretches from this region through Senaar southward to the crystalline slates, associated with magnetic iron ores of the [illegible] slopes, about the source of the Welle. Even the Sahara, long supposed to be a recent marine basin, is characterized by the absence of late sedimentary rocks and marine fossils, and by the presence of old sandstones, quartz and carboniferous limestones, greatly disintegrated by weathering. It also abounds in rich saline deposits, forming a chief article of trade with the neighboring Sudan, which is distinguished by the almost total absence of salt, the prevailing formations here being crystalline rocks, granites, gneisses, schists, [illegible] associated with sandstones in the higher ranges. In the Kong uplands the sandstones overlie the granites, which in the [illegible] group, Kordofan, pass over to porphyries and syenites, with gneiss interspersed with extensive diorite and auriferous quartz veins. Gold, mined by the ancient Egyptians at Mt. Elba, Red sea coast, occurs also in many other places, as the Upper Guinea, the Lower Zambesi, and Transvaal, and gold dust has at all times formed a chief article of export. But iron and copper are the characteristic metals, ferruginous ores abounding almost everywhere, and copper in Namaqualand, the Congo basin, Dar-Fertit and many other places. The basin of the Vaal is one of the richest diamantiferous regions on the globe. In this region, granites and crystalline slates form the substratum of an extensive series of fossiliferous rocks, descending from the outer rim (Nieuweveld) down to the coast in a series of terraces ("karroos"), which are baked clay in the dry season, but flowery and grassy meads in the wet season.

The African *hydrographic* [illegible] are drawn in bolder lines than its orographic systems. Here also a certain symmetry prevails, the two great s. basins of the Congo and Zambesi balancing those of the Nile and Niger of the n. plateau, while the secondary Orange and Limpopo in the extreme s. find their counterparts in the Senegal and Draa of the n.w. The Zambesi and Limpopo, together with the Rovuma, Juba, and a few other coast streams, flow to the Indian Ocean; all the others, together with the Cunene, Kwanza, Ogowai, Volta, Gambia, Tensift, Muluya, and Mejerdah, to the Atlantic, either directly or through the Mediterranean. Nearly all [illegible] of the interior, hence are obstructed either along their [illegible] or lower courses by formidable falls and rapids, such as the stupendous Victoria Falls on the Zambesi, the Yellala and [illegible] on the Lower, and Stanley on the Middle Congo, the so-called "cataracts," the Ripon, Murchison, and many others all along the Nile to Egypt; the "Hundred Falls" of the Middle Ogowai. [illegible] from these impediments are both the Niger and its great affluent the Benue, which latter affords a clear navigable highway to the very heart of Sudan. Here a scarcely perceptible water-parting, which might be easily canalized [illegible], separates it from the Shari, which gives farther access by water northward to Lake Tsad, [illegible] ward toward the Nile and Congo basins. In this still unexplored region, the Shari, with its numerous head-streams, approaches the Makua Welle, which its discoverer, Schweinfurth, supposed to flow from the Monbuttu uplands n.w. to the Tsad, but which the quite recent explorations of Grenfell [illegible] through the Ubangi, to the Congo basin. For other [illegible] the course of the Ogowai, Aruwimi, Sankuru, the [illegible] of Lake Leopold, etc., all rapidly cleared up in recent years, see History of African Exploration.

But apart from its great rivers, including the historical Nile, earliest seat of human culture, Africa possesses a [illegible] lake system elsewhere unrivaled except by the great North American lacustrine basins. These are the crowning [illegible] of modern African research, all having been revealed [illegible] speaking explorers, Livingstone, Speke, Grant, Baker [illegible] Stanley since the [illegible] side of the continent [illegible] the s. tableland [illegible] Zambesi (Nyasa, with outflow Shiré), the Congo [illegible] outflow [illegible], and the Nile (Alexandra Nyanza, Victoria Nyanza, Mwutan Nzigé, and Albert Nyanza, with outflow Somerset Nile). The Alexandra (Akanyaru) drains n.e. through the Alexandra Nile (Kagera) to the Victoria [illegible] of African lakes [illegible] sq. m. [illegible] globe. [illegible] as the farthest head-stream of the Nile, which thus [illegible] lat., flowing thence n. to the Mediterranean for some [illegible] the Albert Nyanza and Mwutan Nzigé [illegible] two distinct basins. Hence, Mwutan Nzigé ma[illegible] restricted to the s., and Albert Nyanza [illegible] his conviction that the Albert N[illegible] be the Chambezi [illegible] considerably over 3,000 miles [illegible] is thus distributed among the three great [illegible] of the Zambesi, Nile, and Congo. But scattered over the [illegible] basins, varying greatly in size, [illegible] but form independent, or, at all [illegible] drainage. By far the most ex[illegible] Lakes Tsad and Ngami, again symmetric[illegible] equator, and fed, the former by the [illegible] the latter by the Tioge. Both vary greatly in [illegible] seasons, and there is good reason to be[illegible] to the Benue-Niger, [illegible]. True alpine lakes, such as those of the [illegible], are represented only by the Abyssinian [illegible] ft. above sea level, which has [illegible] and a depth of over [illegible] ft. It is fed by [illegible] streams, among which is the Abai, farthest source [illegible] which, after sweeping round the [illegible] the Bahr-el-Abiad, or White Nile, at Khar[illegible] great lakes, Tsana was considered [illegible] reservoir and farthest source of the main stream. The great seaward and inland hydrographic systems of [illegible] may now be tabulated thus:

	Area in sq. m.
SEAWARD BASINS—	
[illegible]	1,500,000
[illegible]	1,350,000
[illegible]	1,150,000
[illegible]	570,000
[illegible]	400,000
[illegible]	200,000
[illegible]	160,000
[illegible]	150,000
[illegible] basins and dried up areas of seaward drainage	3,000,000
Total seaward	8,760,000
INLAND BASINS—	
[illegible]	750,000
[illegible]	820,000
[illegible], and other dried-up areas of inland drainage	1,350,000
Total inland	2,920,000

[illegible] all the great divisions of the globe, A. is distin[illegible] of its climatic phenomena, a cir[illegible] and intertropical position. In the [illegible] rain falls [illegible] trade-winds, which, by [illegible] of the atmos[illegible] precipitate them[illegible] a zone of two wet sea[illegible]. In summer, copious [illegible] winds; in winter the [illegible] of heavy rain-charged [illegible] both sides of the torrid zone, com[illegible] the difference in [illegible] contrast in the [illegible] direction con[illegible]. Blowing from the [illegible] they convert to the [illegible] elsewhere [illegible] that A. has two almost [illegible] and sand: the [illegible] Sahara and other wastes in the [illegible] is completed by the reg[illegible] of Mauritania and [illegible] which fall [illegible] A. is thus disposed [illegible] green belts, [illegible], or lines [illegible] temperatures [illegible] the Mediterranean seaboard [illegible] the Orange basin and a zone stretching obliquely from Mozambique to the Cameroons; while the area of greatest mean heat (82° Fahr.) is comprised within an irregular curve inclosing the Upper Nile basin between Khartum and the Albert Nyanza n. and s., Lake Tsad and Massowah (Massawah) w. and e. But, through defective or incomplete observations, the general temperature has often been exaggerated; that of Gambia, for instance, has been reduced by the colonial official report for 1886 to about 76° Fahr. for Jan., and 80° to 82° for July at noon. Nevertheless, owing to the far greater accompanying moisture, these relatively moderate heats are far more oppressive than those of the Beluchistan coast and other drier regions, where the glass constantly rises to 115°, and even 120° Fahr. and 125° Fahr. For the same reason the climate, except on the Mediterranean, Saharan, Red sea, and extreme s. coasts, is nearly everywhere malarious round the periphery of the continent—that is, on the low-lying and generally marshy coast lands between the outer rim and the sea. It is the same in the Chambeze, Malagarazi (Unyamwesi), Shari, and other inland districts, which are either constantly or periodically under water. But elsewhere, with due precautions, the continent cannot be regarded as insalubrious; and the Sahara, for instance, is distinctly a healthy region, although, owing to rapid radiation, the hot days are here succeeded by cool and occasionally even frosty nights. The mean annual rainfall ranges from under [illegible] inches in the Sahara and about 10 in the Kalahari, to 60 and 80 about the equator, and from 80 upward on the Guinea coast. Under all these conditions, Schweinfurth, for many years a resident in A., considers that a European colonization of most of this continent is a possible future contingency.

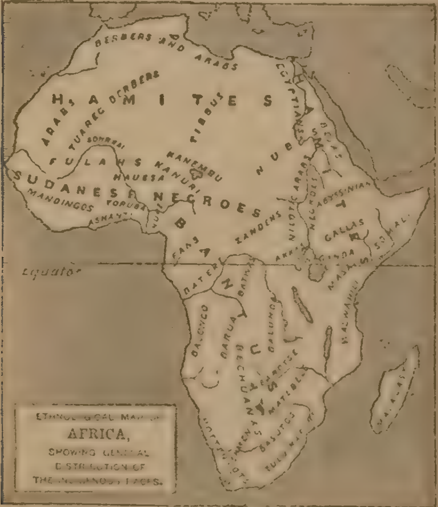
Flora. About 41 per cent. of the surface is said to be either desert, or under scrub, or otherwise absolutely waste, and 35 per cent. steppe, or nearly treeless grass-grown savannah, leaving only 24 per cent. for forest and arable lands. But too much weight cannot yet be attached to such broad statements as these, and all that can be concluded from a comparison of recent observations is, that the grassy tracts appear to be far more and the woodlands far less extensive than had been supposed. The continuous forest growths are now known to be confined mainly to the vast equatorial region between the Upper Zambesi and Sudan, and to some isolated tracts about the Abyssinian plateau, in the Moroccan Atlas, all along the Guinea coast, about the Middle Limpopo and Zambesi, and in parts of Masai Land and the Upper Nile basin. 'From Sierra Leone to the river Ogoway, along the coast, the one prevailing landscape is that of endless forest. This is, in fact, part of the forest region—the forest belt, which has a distinctive fauna and flora, and which extends e., near the equator, more than half way across A. to Lake Victoria Nyanza and the w. shores of Tanganyika.' (H. H. Johnston, The River Congo, p. 13.)

In the extreme n., African and South European species intermingle with some local varieties, and here are found the olive, date, and cork, with seven other kinds of oak, besides the eucalyptus, recently introduced from Australia, all flourishing side by side. Nevertheless, the gramineæ are predominant, and vast tracts in Algeria and Tunis are covered with halfa or alfa, largely exported to England for paper making. The papyrus itself, whence the word paper, still lingers in the Upper Nile, although in the Lower Nile the lotus and other characteristic plants have been mostly replaced by cereals, cotton, tobacco, and other economic species. Beyond Egypt, the date gives place to the dûm and deleb palms, wheat and rice to durrha; while in the forest regions of Sudan and Guinea, the prevailing species are the magnificent baobab (Adansonia), the banana, butter tree, ebony, Elæis guineensis or oil palm, which yields the palm oil of commerce, the mosanga, the mangrove, ground-nut, dragon tree, acacias, mimosas, and other gum-trees, succeeded, in Galla and Somali Land, by aromatic shrubs and the coffee shrub, supposed to take its name from the Kaffa country, s. of Abyssinia. Another variety of this shrub is indigenous in Liberia, whence it has lately been introduced into Ceylon and other coffee-growing lands. Indigenous to A. is also the cotton plant, which, like tobacco, is widely cultivated in Egypt and Sudan, and which grows wild in many places as far n. as 20° n. lat. But of all African floras the most characteristic, as well as the richest and most diversified, is that of the Cape region s. from the Orange river. It consists chiefly of grasses, shrubs, bushes, and flowering plants, and heaths in greater variety than is found even in the richest European lands. Here one might fancy, had been gathered as in a last refuge the diverse growths of the vanished 'Lemurian' continent, which is by some geologists supposed to have occupied the Indian ocean down to the close of Miocene times. This supposition is strengthened by the character of the Madagascar flora, which possesses over forty genera peculiar to itself.

Fauna. A. is the peculiar home of the large mammals, many of which, owing to the absence of great central mountain barriers, freely roam from one end of the continent to the other, without undergoing any special modification of type. Such, among the carnivora, are the lion, far finer than its Asiatic congener, and met everywhere, from the Atlas and Nubia to the cape; the panther and leopard, but not the tiger; the hyena, fox, and jackal. The great herbivori are represented by the elephant, differing both from the Asiatic and from the smaller and now extinct Mauritanian variety; the rhinoceros, of which there appear to be at least three species, including the one-horned, now known to occur in Nubia, and perhaps also in Wadai; the buffalo, also in several varieties; the giraffe, elsewhere extinct, but here still ranging from n. to s., a remark applicable also to the ostrich, as well as to the unwieldy hippopotamus, which, like the crocodile, frequents all the large rivers and lakes. A. is also the special home of the gnu, and several other species of antelopes, sometimes still met in countless herds on both sides of the equator. The monkey family is also spread over the whole continent, where it is represented by numerous types, including the small Barbary variety, the dog-faced baboon, the Galago lemur, the beautiful colobus of the e. regions, besides the anthropoid chimpanzees and gorilla of the w. equatorial districts. Peculiar also are such equidæ as the zebra, quagga, and pigmy Mauritanian ass, although the horse itself, like the camel, appears to have been reintroduced by the Arabs. Of land mammals there are altogether enumerated about 480 species peculiar to this continent, among which are 95 of the simian and 50 of the antelope family.

Equally distinct is the avi-fauna, which, besides the ostrich, includes the secretary, ibis, guinea-fowl, weaver-bird, roller-bird, love-bird, waxbill, whydah, sun-bird, parrots, quail, and several other indigenous species. Reptiles and insects also abound, comprising the huge python, many poisonous snakes, termites, locusts, and two little winged pests highly destructive to domestic animals: the tsetse fly, which ranges from Mozambique to Senaar, fatal to the horse, camel, ox, and dog; and the dandorobo, s. of Kilima-Njaro, which attacks the ass, goat, and sheep. The tsetse especially is one of the great impediments to the progress of culture, although it is said to disappear as systematic cultivation of the soil is developed.

Inhabitants. Recent authorities roughly estimate the population of A. at about 200,000,000, or 18 to the sq. m., a density five times less than that of Europe, but still considerable, regard being had to the great extent of absolutely desert, forest and other waste lands. According to the nature of soil and climate, the population is distributed very unevenly over the surface, being massed somewhat densely in the Nile delta, in the Upper Nile Valley, and generally throughout Sudan, less thickly over the s. plateau, and very thinly in Mauritania and Tripolitana; while large tracts, especially in the Western Sahara, the Libyan and Kalahari wastes, are absolutely uninhabited. Of the whole number, probably less than 1,000,000 are recent immigrants from Europe, settled chiefly in the extreme n. (Egypt and Algeria) and in the extreme s. (Cape Colony, Natal, and Boer states). About 34,000,000, all of Semitic stock, are intruders from Asia, some in remote or prehistoric times (5,000,000 Himyarites in Abyssinia and Harar from South Arabia), some since the spread of Islam (over 20,000,000 nomad and other Arabs chiefly along the Mediterranean seaboard, in West Sahara, and Central and East Sudan). All the rest, numbering about 175,000,000 altogether, may be regarded as the true aboriginal element. These are classed by Lepsius in two great physical and linguistic groups: Hamites in the n., Negroes in the s., meeting and intermingling in the intermediate region of Sudan. But this broad grouping is inadequate to explain the present conditions, for there are probably more than two indigenous stock races, and certainly more than two stock languages in A., while the races themselves are intermingled in the s. plateau quite as much as, if not even to a greater extent than in Sudan. The Arabic term Beled es-Sudan, 'Land of the Blacks,' answers to our somewhat obsolete expressions Nigritia, Negroland, which is commonly regarded as the true home of the black race. Certainly more ideal Negro peoples, that is, ideal in their departure from the European standard, are found in Upper Guinea, for instance, and among the Bari and Shilluk Nile tribes, than among the Bantus, as the Negro or Negroid peoples of the s. plateau are now collectively called. In general, it may be said that, viewed as a whole, the Negro family presents as profound deviations within itself as do the Caucasic and the Mongolic, that is, the two other great families of the e. hemisphere. The deviations are even greater, if in the typical Negro group are to be included not only the aberrant Hottentots of the extreme s.w., but also the pygmy peoples, such as the Bushmen of the Kalahari steppe, the Obongos of the Gaboon, the Akkas [illegible] of Monbuttuland, and the diminutive Batwas, averaging only 4 ft. 3 in. in height, discovered in [illegible] by Dr. Ludwig Wolff in the Sankuru (Middle Congo) basin. These so-called Negritos, scattered sporadically over the s. tableland, seemed to stand in the same relation to their taller neighbors as the e. Negritos (Mindanaos, Malaysian Samangs, Philippine Aetas, Javanese Kalangs) to their taller Papuan neighbors; while their languages, such as that of the Bushmen, abounding in, to us, unpronounceable sounds known as 'clicks,' are said by some to form a sort of connecting link between articulate and inarticulate speech.


BERBERS AND ARABS
HAMITES
ARABS
BERBERS
TUAREG
TIBBUS
EGYPTIANS
SONRHAI
FULAHS
KANEMBU
KANURI
HAUSSA
NUBA
BEJAS
SUDANESE NEGROES
MANDINGOS
YORUBA
ASHANTI
NUPE
ARABS
NILOTIC
NEGROES
ABYSSINIANS
GALLAS
SOMALI
BANTUS
ZANDEHS
FANS
AKKAS
UGANDA
MASAIS
Equator
BATEKE
BATWA
BALUNDA
SWAHILI
BALUBA
BARUA
BECHUANAS
BAROTSE
MATABELE
BASUTOS
HOTTENTOTS
ZULUS
MALAGASY
ETHNOLOGICAL MAP OF
AFRICA,
SHOWING GENERAL
DISTRIBUTION OF
THE AFRICAN RACES.

Radically distinct from these idioms is the Hottentot, which itself differs [illegible] from the Bantu [illegible] Khosas of Kaffirland [illegible] and the Duallas of the Cameroons. [illegible] Arab, [illegible] Tartar, Abyssinian [illegible] other continents, gives a certain unity to the Bantu populations, who could not otherwise be distinguished [illegible] from their n. Negro and N[illegible] Sudan [illegible] the diversity of speech is [illegible] types produced by intermingling [illegible] Hamitic peoples. But [illegible] future classification [illegible] have already been determined [illegible] the prevailing [illegible] branches [illegible]; the Sonrhai of Timbucktu and the middle Niger; the [illegible] the Haussa [illegible] Sudan; the Tibbu (Tedaga and Daza), ranging from Fezzan across the

Central Sahara to Kanem, Bornu (Kanúri), Wanyanga and Dar-Fur (Baele and Zoghawa); lastly, the Nuba of Kordofan and the middle Nile to the Egyptian frontier. All these, except the Tibbu, while differing radically from each other, seem to be essentially Negro forms of speech, although the true Fulahs are not a Negro, but apparently a Hamitic people (Krause). On the other hand, the Nubas hitherto supposed to be related to them, are now known to be true Negroes, whose type is preserved in Kordofan, and greatly modified in the Nile valley (Keane). The recent researches of Nachtigal have also helped to determine the hitherto doubtful position of the Tibbus (the Garamantes of the ancients), who occupy the whole of e. Sahara, from about 12° e. long., and whose true home appears to be the Tibesti highlands. Physically, they are not to be distinguished from their Tuareg (Hamitic) neighbors; but the race has been gradually displaced s. to the Tsad basin, where their speech, fundamentally distinct from the Hamitic, has been adopted with considerable modifications by the Kanuri, Kanembu, and other true Negro peoples. Other large Negro groups are the Batta of Adamáwa; the Nupe and Yoruba of the Lower Niger; the Mosgu (Masa), s. of Lake Tsad; the Maba of Wadai; the Dinka, Shilluk, Bari, and Monbuttu of the Upper Nile and Upper Welle; lastly, the Zandeh (Nyam Nyam) and Fan, occupying much of the still unexplored region between Sudan and the Congo and Ogoway basins. All of these appear to be true Negroes except the Fans, who have in recent times reached the w. coast about the equator, and who are described as quite distinct (Hamites?) from the surrounding black population (Burton, Lenz).

The remainder of N. A., except where encroached upon by the intruding Semites (see above), is the proper domain of the Hamites, who are the African branch of the Caucasic family. Their physical type is essentially Mediterranean, often characterized by extremely regular features, and in places even by blue eyes and fair complexion (Atlas uplands, Algeria). But their language bears no distinct relation to any other Caucasic form of speech, beyond a certain faint resemblance to the Semitic sufficient to suggest a possible primeval Semito-Hamitic organic tongue. It has a geographical range in the n. almost equal to that of the Bantu in the s., being spoken with great dialectic variety by the Berbers (Imoshagh) in W. Sahara (Tuaregs), also Marocco and Algeria (Shluhs, Kabyles, Mzabs), and in the e. by the Gallas, Somális, Masai(?), Afars (Danákil), Agau, and Bejas—that is, generally between the Nile basin and the e. coast. But it is now extinct in Egypt, where Arabic is current, and where the old Hamitic speech is represented only by the liturgical language of the few surviving Christian Coptic communities.

In its ethnical relations, as well as its natural history, Madagascar forms a region apart, the dominant Hovas of the central plateau, the Sakalavas of the w., and the Betsimisarakas of the e. coast, being either of pure or mixed Malay stock. The Malagasy language also, which is spoken with a certain uniformity all over the island, is an outlying branch of the great oceanic (Malayo-Polynesian) family, which stretches thence to Easter Island. Nevertheless, there is evidently a considerable intermixture of black blood, due to the importation of slaves from the Mozambique coast, and possibly also to the presence of a Negro element in the island before the arrival of the Malayan intruders from the eastern archipelago.

The foregoing remarks will be rendered more intelligible by the subjoined general scheme of all the African races:

I.—NEGRO AND NEGROID PEOPLES.

N[illegible]—	
[illegible]	Kalahari Desert
[illegible]	Sankuru River, Congo Basin
Obongos	Ogoway Basin
Akkas	South Monbuttuland
Hottentots (Khoi-Khoin)—	
Namaqua	Great and Little Namaqualand
Koraqua	Upper Orange, Vaal, and Modder Rivers
Griqua (half-castes)	Griqualand West
B[illegible]—	
Zulu-Kafirs, Basutos, Bechuanas	South from the Limpopo
[illegible], Matebele	Between Limpopo and Zambesi
[illegible]ja, Wayau	Lake Nyassa
[illegible], Barua, Balunda	Between Zambsi and Congo
Waswahili, Wanika, Wapokomo	East Coast
W[illegible]	Equatorial Lakes
Ova[illegible]	West Coast

Sudanese Negroes—

Kru, Fanti, Ashanti, Yoruba, Nupe	Upper Guinea
Mandingan, Wolof, Bambara, Sonrhai	Senegambia
Haussa, Batta, Kanuri, Baghirmi, Mosgu, Kanem	Central Sudan
Maba, Nuba, Dinka, Shilluk, Bari, Monbuttu, Zandeh	Eastern Sudan

II.—HAMITIC PEOPLES.

Mixed and Doubtful Hamites—

Fans	Ogoway Basin, thence inland
Fulahs	West and Central Sudan
Tibbus	East Sahara
Agaus	Abyssinia
Masai	Masailand
Fellahin	Egypt

True Hamites—

Berbers	Shluh	Morocco
	Mzab, Kabyle	Algeria, Tunis
	Tuareg	West Sahara
Gallas, Somáli, Afar (Danákil), Bejas		Northeast Coast

III.—SEMITIC PEOPLES.

Arabs	Mauritania, West Sahara, Central and West Sudan
Himyarites (Amhara, Tigré, Shoa)	Abyssinia

Religion and Social Condition. Speaking generally, the nothern Hamites and Semites are Mohammedans and stock breeders, the southern Bantus nature worshippers and agriculturists; all these factors intermingling in the intervening zone of Sudan. The chief exceptions to this broad statement are the Christian Abyssinians (Monophysite sect), the Hottentots, who are mainly cattle breeders, and the Algerian Berbers, who prefer tillage to pasturage. A nomad existence prevails in e. Sudan; a settled, in central and w. Sudan. Throughout the whole of this region Islam continues to encroach on heathendom; it is now firmly seated on the upper Niger and upper Senegal, it has already penetrated to various points of the Senegambian and Guinea coasts, it has spread with the conquering Fulahs to the s. limits of Adamáwa, and has crept down the e. coast from Somáliland to Zanzibar and Mozambique. Thus fully one half of the continent has accepted its tenets, which have, on the whole, had a beneficent influence on the Negro peoples, by developing a taste for clothing and other social comforts, by suppressing cannibalism, and shaking their faith in the medicine man. Its further progress is barred by the all-prevailing fetishism, intimately associated as that system is with the baneful practice of witchcraft. Cannibalism also in its most repulsive forms holds its ground among the Monbuttus, Zandehs, and Fans, a central zone of anthropophagy apparently traversing the continent from the w. coast along the equator nearly to the great lakes and stretching n. to the upper Shari basin. On the other hand slavery, while maintained by Mohammedanism as a necessary social institution, has, by the intervention of the European powers, almost ceased to be an object of foreign traffic. The horrors of the "middle passage" no longer vex the conscience of Christendom, and the Arab slaver has nearly disappeared from the Red sea and Indian waters. But the Arab slave dealer continues to widen his sphere of action in the interior, and has recently come into collision with the pioneers of European civilization, towards the eastern frontier of the newly founded Congo state. Christianity has been introduced at various points of the periphery, and has made some progress among the Basutos and some other southern Kaffirs.

The political map of Africa has during the last few years undergone considerable modifications, due partly to wars and revolts at the extreme n. and s., but mainly to the rapid progress of exploration, which has reawakened the interest of Europe in the destinies of this continent. A fresh stimulus was thus given to the process of appropriating the territory still unoccupied in this region, with the result that at present fully two-thirds of Africa are under the direct or indirect control of seven European powers—Great Britain, France, Portugal, Spain, Germany, Italy and Turkey. The rest, with the exception of a few more or less clearly defined independent [illegible] states, is still held by unruly predatory hordes, or by savage peoples still in the tribal state.

Great Britain holds [illegible] settlements at two points of the Senegambian coast (Gambia and Sierra Leone), and all along the Guinea coast from the Assinie river to the Niger delta, and thence round to the Cameroons. (2) A now recognized protectorate over the lower Niger and Benue, where the chartered African Trading Co. possesses exclusive commercial privileges, and even exercises direct political influence over the surrounding native states. (3) The colonies of the Cape and Natal, with Griqualand West, and protectorates over Basutoland, Kafirland, Pondoland, and (since 1887, May), all Zululand, except what now belongs to the Boers, and (since 1885, March, by treaty with Germany) over the whole of Bechuanaland, between the Boer states and 20° e. long. e. and w., with undefined n. limits toward Lake Ngami. (4) British Zambezia and Nyassaland, including Metabelaland, Mashonaland, and n. Bechuanaland: the country from the w. shore of Lake Nyassa to the s. and e. boundaries of the Congo free state, and n. by the Stevenson road to Tanganyika, a total area of 540,000 sq. m. (5) A protectorate (also by treaty with Germany, 1887), over the territory between Mt. Kilima Njaro and the Tana (Dana) river, giving permanent access from the e. coast to Masai Land and the equatorial lake region. (6) A protectorate over the Sultanate of Zanzibar. A strip of Zanzibar coast 700 m. long, extending n. from the river Umbe, the limit of the sphere of German influence, to Kismayu. (England passed over to Italy the ports n. of Kismayu). The British East African territory extends w. between the spheres of Italian and German influence, or between Abyssinia and the Umbe, across Lake Victoria Nyanza, passing n. of Mt. Kiliman-Jaro, but including Mt. Mfumbiro, Witu, Uganda, Usoga, Unyoro, Ruanda, Emin Pasha's equatorial province, and a large part of the Eastern Sudan as far n. as Wady Halfa. She has also formally annexed Socotra (1886), and in the meantime holds military occupation of Egypt.

France holds: (1) Algeria, to which Tunis has recently been practically annexed, making a compact territory between Morocco and Tripolitana, stretching from the Mediterranean s. to about 30° n. lat. (2) The whole of the Senegal basin, from which her protectorate has now been extended e. to Sego on the Upper Niger, with a view to connecting this region with her Mediterranean possessions by a future Trans-Saharian rw. Since 1884 regular relations have been opened with the Kahia (hereditary mayor) of Timbuktu. (3) The Gaboon and Ogoway basins, reaching by treaty (1885) with the Congo state s. to the right bank of the Congo. (4) Obock, on Bab el Mandeb strait, and Grand Bassam on the gulf of Guinea. (5) France also claims a protectorate over the Island of Madagascar.

Portugal holds her old possessions of Angola and Benguela, with a small tract just n. of the Congo mouth, on the w. coast; and on the e., Mozambique, with dependencies between Cape Delgado and Delagoa bay, and along the right bank of the Zambesi to Tete. Spain claims on the mainland nothing but Ceuta, over against Gibraltar; a recently occupied strip of the n.w. coast, between Capes Bojador and Blanco; Ifni near Cape Nun and the district of the Muni and Naya rivers, n. of the Gaboon. Germany, by the above mentioned treaties with England, has acquired the coast lands between Cape Frio and the Orange river (except the British territory of Walvisch bay), extending inland to 20° e. long. (Bechuanaland); the Cameroons, at the head of the gulf of Guinea; and on the e. side, a protectorate over the region stretching from the Rovuma river, w. from Zanzibar, n. to Kilima Njaro and the s. end of Victoria Nyanza. Italy has, since 1884, occupied the Red sea coast from Massowah s. to Assab; but her claim to this territory is disputed by Abyssinia, with which power she came into collision early in 1887. Turkey continues her suzerainty over Egypt, while retaining the Pashalik of Tripolitana with Fezzan—that is, the Mediterranean seaboard from Egypt to Tunis. But since the revolt of the Mahdi in Eastern Sudan, the Egyptian frontier has been withdrawn to Wady Halfa (second cataract of the Nile) in Lower Nubia. Thus the whole of Egyptian Sudan s. to the equator and w. to Wadai, reverts, at least temporarily, to the state of barbarism which prevailed in this region before its annexation to Egypt. Lastly, the Congo free state, founded by the international conference of Berlin, 1884-1885, and placed under the sovereignty of Leopold II., king of Belgium, and the joint protectorate of the European powers, comprises the Congo basin e. to Tanganyika, s. to Lake Bangweolo, and n. to about 4° n. lat., with a total area of over 1,000,000 sq. m. Several stations have already been established along the main stream, which, if maintained, will form so many centres of civilizing influences for the surrounding Bantu populations.

Of the native states, the most important are: (1) Morocco, in the extreme n.w., long threatened with disintegration, but held together by the mutual jealousy of Great Britain, France, and Spain. (2) The Abyssinian empire, embracing the Upper Bahr el-Azraq and Takazze basins, steadily advancing in search of an outlet on the Red Sea, and through the vassal state of Shoa penetrating s. into the Galla and Somáli domains. (3) Wadai, a powerful sultanate between Dar-Fur and Lake Tsad, on which the neighboring kingdom of Baghirmi is virtually dependent. (4) The former Haussa, now Fulah, states of w. Sudan, including the empire of Sokoto with Adamáwa, and the kingdoms of Gando and Moasina (Massina) on the Niger. (5) Dahomey, the most powerful native state in Upper Guinea since the overthrow of Ashanti by the British (1874). (6) The sultanate of Zanzibar, now restricted to the islands of Zanzibar and Pemba, and under the protectorate of Great Britain, who has taken possession of the continental territories and claims of the sultanate. (7) U-Ganda, a Bantu empire, ruling directly, or through vassals, over the n.w. and n. shores of Victoria Nyanza. Mtesa, who at one time betrayed Christian proclivities, was succeeded (1885) by Mwanga, whose avowed policy was to extirpate Christianity, tolerating the missionaries only for their skill in the arts and industries. He was expelled by the Arabs in 1888, but restored the following year by aid of the Christians whose influence now predominates. Uganda is now definitely under British influence. (8) U-Rua and U-Lunda, the Muata Yanvos' two vast Bantu states, with somewhat undefined limits, in the central regions between the Congo and Zambesi basins. (9) Matabele, a state of comparatively recent Zulu foundation, holding sway between the Limpopo and Zambesi.

To these may be added the two Boer states of Transvaal (now South African Republic) and Orange Free State, nearly encircled by the British and Portuguese possessions; with part of Zululand, also under the Boers. These, with Abyssinia, are Christian; the Zulu and three Bantu states, with Dahomey, are pagan; all the rest Mohammedan. The region held by the nomad predatory tribes is mainly the Sahara: Tuaregs, Hamites and Arabs in the w., Tibbu Hamites in the e. Of the lands under tribal organization, the most extensive appears to be that of the Zandehs (Nyam Nyams), between the Upper Nile and Middle Congo.

The following table, showing the partition of the African continent among the European and native powers, which was compiled for the Statesman's Year Book, by Mr. E. G. Ravenstein, F. R. G. S., will be found interesting:

AFRICA.

	Area.	Population.	Inhabitants to sq. m.
BRITISH GUINEA—			
Gambia	2,700	50,000	19.0
Sierre Leone	15,000	180,000	12.0
Gold coast	46,600	1,905,000	41.0
Lagos and Yoruba	21,070	3,000,000	142.0
Niger Territory and Oil Rivers	290,000	17,000,000	50.0
Total	375,370	22,032,000	60.0
SOUTH AFRICA—			
Cape Colony with Pondo Land and Walvisch Bay	283,430	1,700,000	7.0
Basuto Land	9,720	180,000	19.0
Natal	21,150	540,000	25.0
Zulu and Tonga	14,220	180,000	13.0
British Bechuana Land	43,000	44,000	1.0
Bechuana Land, Prot.	127,000	50,000	0.4
Zambezia, Nyassa Land	540,000	1,100,000	2.0
Total	988,520	3,794,000	4.0
EAST AFRICA—			
Zanzibar and Pemba	985	165,000	167.0
Ibia to 5° n. lat.	245,000	5,600,000	23.0
To Egyptian frontier	[illegible]	7,000,000	8.0
North Somauli	90,000	240,000	8.0
Sokotra	7,382	10,000	8.0
Total	1,097,367	13,015,000	12.0

AFRICA.—*Continued.*

	Area.	Population.	Inhabitants to sq. m.
ISLANDS—			
Mauritius, etc.	1,053	390,000	371.0
St. Helena, Ascension, Tristan d' Acunha, etc	126	5,000	4.0
Egypt, occupied militarily	400,000	6,817,265	638.0
Total	401,179	7,212,265	337.0
Total British Africa	2,862,436	46,653,265	103.0
FRENCH —			
Tunis	44,800	1,500,000	33.0
Algeria	184,500	3,820,000	21.0
Sahara	1,568,000	1,120,000	0.7
Senegambia	51,000	250,000	5.0
Gold and Benin coasts	7,500	250,000	33.0
Sudan	475,000	8,800,000	18.0
Congo and Gaboon	220,000	2,500,000	11.0
Obok	2,320	23,000	10.0
Madagascar, etc	228,600	3,520,000	16.0
Comoros	760	64,000	84.0
Reunion	970	166,000	171.0
Total French Africa	2,783,950	22,013,000	8.0
PORTUGUESE—			
Portuguese Guinea	11,600	150,000	13.0
Angola	603,000	3,600,000	6.0
Mozambique	293,000	1,500,000	5.0
Madeira	314	136,000	433.0
Cape Verde	1,490	111,000	75.0
St. Thomas and Prince's Is.	420	21,000	40.0
Total Portuguese Africa	909,824	5,518,000	6.0
SPANISH AFRICA—			
Zeuan	27	6,000	222.0
Sahara	243,000	100,000	0.4
Canaries	2,800	285,000	103.0
Gulf of Guinea	930	50,000	54.0
Total Spanish Africa	246,757	441,000	2.0
GERMAN AFRICA—			
Togo Land	16,000	500,000	31.0
Cameroons	130,000	2,600,000	10.0
Southwest Africa	321,000	250,000	0.8
East Africa	364,000	1,760,000	5.0
Total German Africa	831,000	5,110,000	6.0
ITALIAN AFRICA—			
Eritrea	56,100	660,000	12.0
Abyssinia	189,000	4,500,000	24.0
Somal coast	70,000	210,000	3.0
Total Italian Africa	315,100	5,370,000	17.0
BELGIAN AFRICA—			
Congo Free State	827,000	15,000,000	18.0
Total Belgian Africa	827,000	15,000,000	18.0
BOER REPUBLICS	163,400	810,000	5.0
LIBERIAN REPUBLIC	37,000	1,050,000	29.0
TURKISH AFRICA—			
Tripoli	398,873	1,000,000	2.0
MOROCCO	219,000	5,000,000	22.5
GREAT LAKES	[illegible]	....	.....
UNAPPROPRIATED	[illegible]	10,868,400	10.0
[illegible]	[illegible]	127,000,000	11.0

Exploration.—The term 'Africa,' originally the name of a small tract on the n. coast still surviving in the *Friga* of the Tunisian Tell, was extended under Roman influences to the whole of the 'dark continent,' just as the 'Asia' of the Cayster Valley in Ionia had under Greek influences, been extended to the whole of the e. world. It was the Ethiopia of Homeric, and the Libya of later Hellenic times, terms vaguely applied to the region stretching away to the setting sun, and with undefined s. limits. But neither Greeks nor Romans ever extended their knowledge much beyond the n. verge of the Sahara, and although the Nile Valley was the earliest seat of human culture, with stupendous monuments dating back 4,000 years before the Christian era, A. is still the least known division of the globe. Its exploration may be said to have begun with the expedition sent by Sankhara of the 11th (Theban) dynasty to the land of Pûnt (Somáliland), as recorded on the Wady Hammamát inscription (2400 B.C.), and after a lapse of over 4,200 years, this work of exploration is still far from complete. After the circumnavigation attributed by Herodotus to Necho, son of Psametik I. (26th or Saïte dynasty, 600 B.C.), and the naval expedition of the Carthaginian Hanno round the n.w. coast, perhaps to the equator (500 B.C.), little was done for the seaboard till the 14th cent. A.D., when the Dieppe mariners claim to have founded 'Little Dieppe' on the Guinea coast (1364), and colonized the Canaries under Jean de Béthencourt, and when Italian navigators had coasted the n.w. side as far as Bojador, as clearly shown on Marco Pizzigani's sketch map (1367), now in the Parma library. Our general knowledge of the periphery was nearly completed toward the close of the next century, when Vasco de Gama doubled the cape and skirted the e. coast northward to Magadosho in 2° n. lat. (1498). But long before this, the spread of Islam in the 7th cent., followed in the 11th (1050-78) by the tremendous irruption of nomad hordes from s.w. Asia, had converted the greater part of the n. plains into an Arab domain, which was revealed to science by the Arab writers of the next ensuing centuries. Thus a fair knowledge was acquired of the geographical, political, and ethnological relations in the three physical zones of Maghreb (Mauritania), the Sahara, and Sudan by the works of Edrisi (12th cent.), Yakût, Abu'l Hassan, and Ibn Saïd (13th cent.), Abu'l Feda and Ibn Batuta (14th cent.), Makrizi, Leo Africanus, and Ibn Khaldûn (15th cent.), the true pioneers of African exploration. Then followed three hundred years of comparative inactivity, marked by no serious attempt to penetrate far into the interior, and noted chiefly by the occupation of various points on the coast by the Portuguese, Dutch and English. The Portuguese established relations with the powerful Bantu states of Congo on the w., and Monomotapa on the s.e. side; the Dutch obtained a firm footing in the Hottentot country in the extreme s., while the English were attracted more especially to Guinea and Senegambia (Windham's voyage to Guinea in the 16th cent., followed by the journey of Jobson and Thomson, and occupation of Cape Coast in 1664).

But the modern epoch of geographical research, apart from political or commercial considerations, begins properly with James Bruce, who discovered the Abai source of the Blue Nile in 1770 and whose adventures in Abyssinia stimulated the foundation of the African association (1788), which before the close of the 18th cent. had already sent out Ledyard, Lucas, Houghton, and Mungo Park to explore the Niger basin.

In the 19th cent., the most various motives have co-operated in favor of an extended knowledge of this vast continent. The captains of English cruisers employed to suppress the slave trade have supplied some valuable information; the governors of the colonies and private merchants have contributed their share; and enterprising travellers from all sides of the coast have endeavored to strike out paths to the interior. In 1803-6, Lichtenstein travelled in the district n. of the Cape of Good Hope, and first furnished information regarding the Bechuana tribe. In 1809 Burckhardt was sent out by the African society, and his explorations, rich in important results, occupied the years 1812-16. To the French we are indebted for much valuable information concerning Morocco, Algeria, and the neighboring parts of Sahara. The labors of Clapperton, Denham, and Lander, in the Sahara and Sudan are memorable for the discovery of Lake Tsad and the course of the Niger. [illegible] our knowledge of s. A. has received [illegible] additions from the missionaries stationed there, especially [illegible] Livingstone, who from 1840-53 was [illegible] to open the countries n. of the Cape of Good Hope, penetrated in 1849 as far as Lake Ngami.

20° s. lat. and in 1853, ascending the Leeambye (Zambesi) n. for several hundred miles, succeeded in crossing the continent to Loanda on the w. coast. Having retraced his steps to the point of the Zambesi from which he had started, the adventurous traveller next followed that stream till he reached the e. coast, at Quilimane, in 1856. From 1859-63 was spent in various explorations of Lake Nyassa and the neighboring regions. Again setting out in 1866, he found, in the region s. of Lake Tanganyika, the river Chambezi. This river, which is specially known by this name ere it falls into Lake Bemba or Bangweolo, is known between that lake and Lake Moero as the Luapula, and farther on in its course as the Lualaba; and was by Livingstone traced through these lakes, and as far as 4° s. lat. Livingstone's belief was that this basin, now known to be the Upper Congo, contained the head waters of the Nile. In 1871, along with Stanley, he found the river Rusizi flowing into the n. of Lake Tanganyika. After some farther exploration of these regions, the new efforts to find the Nile sources, he died at Ilala, beyond Lake Bemba, in 1873, May. Burton and Speke, crossing the Border mountains from Zanzibar, in 1857, discovered Lake Tanganyika; and the former then journeying to the n. e., discovered the s. part of the great Victoria Nyanza, which he supposed to be the head reservoir of the Nile. A second expedition, undertaken by Speke and Grant in the end of 1860, penetrated as far n. as Gondokoro on the White Nile, and added vastly to our knowledge of the e. equatorial regions of A. At Gondokoro, Speke and Grant were met by Mr. (afterward Sir Samuel) Baker who, accompanied by his heroic wife, pushed on to the s., and discovered in 1864, w. of the Victoria, another great lake, which he called the Albert Nyanza. He returned in 1873, Sept., from a second expedition of a military character undertaken in 1869, at the expense of the Pasha of Egypt, to suppress slavery in the upper regions of the Nile. The geography, language, and manners of the inhabitants of Abyssina, Senaar, and Kordofan have also during late years been greatly illustrated by the efforts of various European travellers.

The researches of Dr. Barth and his companions (1850-5) and Dr. Gustav Nachtigal (1869-74) investigating the same central division of the continent as Clapperton and Denham and Dr. Schweinfurth's travels (1868-71) in unexplored regions, have enriched our store of knowledge regarding this land of mystery. In 1874-5 Lieut. Cameron surveyed the lower half of Lake Tanganyika, and walked across tropical A. from e. to w.; while H. M. Stanley, after exploring the Shimiyu, farthest s. head stream of the Nile, circumnavigated Victoria Nyanza, and discovered the Mwutan Nzigé, which he took for Baker's Albert Nyanza, but which is now known to be a distinct basin draining possibly to Tanganyika (1875-6). Then striking the Lualaba at Nyangwe in the end of 1876, he forced his way down the stream; and arriving at the mouth of the Congo in autumn 1877, demonstrated that the Lualaba and the Congo are identical. In 1877-9 Serpa Pinto crossed from Benguela to Durban in Natal. In 1880 Mr Joseph Thomson explored the route between Nyassa and Tanganyika; and in 1884 he made his memorable journey from Mombasa by Kilima Njaro and Kenia across Masai Land to the Victoria Nyanza. In 1884 Mr. H. H. Johnston camped on Kilima-Njaro, and ascended the main peak to a height of 16,300 ft. Dr. G. A. Fischer, in his attempt to relieve Emin Pasha, reached n. to Lake Baringo (1885-86). In 1885 Grenfell discovered the Ubanghi, the great n. tributary of the Congo, which he navigated to within 200 m. of the farthest point reached by Dr Junker (22° 30′ e. long.), penetrating w. down the Welle-Makua (1886). It thus seems all but certain that Schweinfurth's Welle flows, not to Lake Tsad through the Shari, but through the Ubanghi to the Congo.

In 1888 Emin Pasha reported by letter repeated exploration of the Albert Nyanza (q.v.). Meanwhile Stanley's expedition was on its way by the Congo to rescue him. The intricate water system south of the Middle Congo has also been unravelled, especially by Pogge, Wissmann, and Ludwig Wolf (1881-6), who have made it evident that the Kwango, Kassai, Sankuru and Lake Leopold all belong to one magnificent hydrographic system flowing through the Kwa to the Congo at Kwamouth, and including Livingstone's Kassabi (1854). It was on the Sankuru that Dr. Wolf made the acquaintance of the pigmy Batwas, the smallest known race of mankind. The Ogoway system, first discovered by Du Chaillu (1856), ascended by Walker to Lope (1866) and surveyed by Compiegne and Marche to [illegible] (1874), has been completely elucidated by **De Brazza, Mizon, and Rouvier** during various expeditions between 1875-86. The Alima, supposed to be one of its head-streams, has been followed to the right bank of the Congo; and the Ogoway itself, reported to be one of the great continental basins, proves to be a coast stream of secondary importance. After visiting it in 1874, Dr. Oscar Lenz transferred the scene of his operations to the n. crossing from Moroco to Timbuktu in 1880, and doing excellent surveying work on the route across the Western Sahara. The same route had been followed by Chaillé in 1828, himself preceded (1826) by Laing from Tripolitana, and followed by Barth (1853), these besides Mungo Park being the only European travellers that have reached the queen of the desert during the present century. Again moving s., Lenz ascended the Congo to Nyangwe, and crossed the continent from the mouth of that river to the Zambesi delta in seventeen months (1885-6) he had been preceded altogether by nine others. Livingstone, Loanda to Quilimane, 1854-6; Cameron, Zanzibar to Benguela, 1873-5; Stanley, Zanzibar to Congo mouth, 1874-7; Serpa Pinto, Benguela to Natal, 1877-9; Matteucci and Massari, Suakin to Niger delta, 1880-1; Wissmann, Loanda to Zanzibar coast, 1881-2; Arnot, Natal to Benguela, 1881-4; Capello and Ivens, Mossamedes to Zambesi delta, 1884-8; Gleerup, Congo mouth to Zanzibar 1884-6. H. M. Stanley, Congo mouth up Aruwimi and through the great equatorial Forest Belt to Albert Nyanza, thence with Emin Pasha to Zanzibar, 1887-9; Emin Pasha from Zanzibar via Uganda and Albert Nyanza to his old equatorial province, 1889-1.

These have all been routes from e. to w. or w. to e., no one having yet succeeded in crossing the continent along the line of the meridian from n. to s. In 1886 Dr. Holub attempted the route from the cape n., and in 1887 had penetrated farthest in this direction, having advanced some distance beyond the Zambesi. Meantime, although still numerous, and in some places extensive, the blank spaces on the map of A. are being rapidly filled up, thanks partly to private enterprise, partly to the activity displayed by the officers in the service of the Congo free state. The regions that still remain to be explored are chiefly: (1) The Upper Zambesi and the space between that river and the head waters of the Congo—that is, both slopes of the Lokinga water-parting. (2) The region between the Congo and equatorial lakes. (3) The much larger region between the Congo and Shari basins, and thence w. to the Bight of Biafra. (4) Most of Somali, Kaffa, and Galla lands, especially between Thomson and Fischer's farthest n. and Schuver's farthest s.—that is, between 1° 10' n. lat., and stretching from the Upper Nile to the Indian ocean. (5) Much of the region inclosed by the great n. curve of the Niger. (6) The Libyan desert.

Besides the books of the above mentioned explorers and travellers, see the works on A. by Keith Johnston, Réclus, Hartmann and others.

ALBANIA, *ăl-bā'-ne-ă:* forms the w. portion of European Turkey, and extends along the e. shore of the Adriatic and Ionian seas, from the river Bojana to the gulf of Arta. To the n. it is bounded, since 1878-80, by the newly won Montenegrin territory, including Dulcigno, and by Bosnia; on the s. it is separated, since 1881, from Greece by the river Arta. The e. boundary is vaguely defined by a mountain range, which to the n. attains a maximum altitude of 7,990 feet. W. of this range lie parallel chains, inclosing on the one side long elevated valleys, and sinking on the other in terraces, down to level strips along the coast, which mostly consist of unhealthy swamps and lagoons. Pindus, to the s. (its loftiest summit, 7,071 feet, belongs now to Greece), is likewise flanked by isolated basins or hollows, whose w. edges pass into the jagged and thick-wooded Epirote highlands. These highlands advance to the sea, forming steep rocky coasts. One promontory, the Acroceraunian, projecting in Cape Linguetta far into the sea, reaches a height of 6,642 ft. A. contains about 18,944 sq. m., and has a coast 280 m. if measured in a straight line n. and s. In breadth it does not exceed 100 m., contracted to 30 in the s. part.

A comparatively uniform climate, tempered by high mountains and the proximity of the sea, and a favorable soil, would seem to invite the inhabitants to agriculture; but for the most part in vain. The drawbacks are excessive heat in the summer, especially in narrow valleys, together with droughts and earthquakes, and in the s., violent storms. In the n., little is cultivated but maize, with some rice and barley in the valleys; while the mountain terraces are used as pastures for numerous herds of cattle and sheep. In the s. there is more variety. Here the slopes of the lower valleys are covered with olives, fruit, and mulberry trees, intermixed with patches of vines and maize, while the densely wooded mountain ranges furnish valuable supplies of timber. The plateau of Janina yields abundance of grain; and in the valleys opening to the s., the finer fruits are produced, along with maize, rice, and wheat. Even cotton and indigo might be profitably cultivated in the moist valleys, but in its present wretched condition the country can barely support its scanty population.

Scutari, in the n.e. corner of the province, and at the s. end of a lake of the same name, is now the chief town. It numbers about 40,000 inhabitants, and has a large trade inland. Prisrend, almost due e. from Scutari, with a population of 25,000, has reputation for its manufacture of cutlery and fire-arms. Joannina, or Janina, on a lake of the same name in s. A., has about 36,000 people, and was once a capital and stronghold under Ali Pasha. Other towns of importance are Delvino, 40 m. n.w. of Joannina; Avlona on the straits of Otranto; and Arta at the extreme s. The last, and Dulcigno, Durazzo, Parga, and Prevesa, are the chief ports. Through Arta and Prevesa, both on the gulf of Arta, the commerce of the province is chiefly carried on. The valonia oak acorn cup for tanning, dye-woods, cotton, raw silk, wool, horses, sheep, hides, salted meats, drugs, grain, oil, tobacco, are exported; and the imports are mostly coarse German cloth, hardware, fire-arms, coffee, sugar, etc. The manufactures of the country are few.

According to the recent divisional nomenclature of the Turkish empire, A. is partitioned into three eyalets: Uskub on the n.; Roumelia in the centre, and Yania on the s., or as named from the chief towns of each, the pashaliks of Scutari, Monastir, and Joannina. The Albanians themselves recognize rather such divisions as are formed by native tribes, the Ngege or Ghegides, the Toske or Toskides, the poor mountaineer Liape, and the Tsami of the s. Upper or northern A. formed part of the Illyria of the Romans; lower or southern A. corresponds to ancient Epirus. The inhabitants form a peculiar people, the Albanians, called by the Turks Arnauts, and by themselves Skipetars. According to Lord Strangford, 'the true Albanian part of their language, after precipitation of the foreign elements, is distinctly Indo-European, and is more closely connected with Greek than with any other Indo-European language existing or recorded. . . . My own conjecture is, that the language in its present diffusion is quite modern, that is to say, of the Roman imperial times; that, at the time of the first mention of the name, Ptolemy's Albanopolis, it was confined to a comparatively small area in the Central Pindus, one probably of many other dialects, either Epirotic or Illyrian. . . . This is tame work after Hahn and the people who make Achilles and Deucalion speak modern Albanian.' Letters on Philological subjects, 1878. The Albanians are half civilized mountaineers, frank to a friend, vindictive to an enemy. They are constantly under arms, and are more devoted to robbery than to cattle-rearing and agriculture. They live in perpetual anarchy, every village being at war with its neighbor, and even the several quarters of the same town carrying on mutual hostilities. The men are manly, and even imposing in manner, and their dress has a picturesque resemblance to that of a Scotch highlander; the wealthier in velvet vest embroidered with gold, and with burnished trappings, with a rough, shaggy mantle when protection is needed from the weather. They despise and ill-treat women; but they are not deceitful like the Greek, nor sullen and inactive like the Turk. Many of them serve as mercenaries in other countries and they form the best soldiers of the Turkish army.

During the time of the Greek empire the name A. was given to the district, and it attained independence as the empire declined. In the previous age of classic Greece, the tribes had little part in history, the chief exception being the reign of the able commander Pyrrhus (296-272 B.C.), king of Epirus; after whose time the people became subject to the Macedonians, in common with whom they submitted to the Romans 167 B.C. While the Greek empire fell into decay, they maintained their independence, though the rest of Greece yielded to the Bulgarians. In the great revolt of Greece, 1821-9, they would have united against the Turks, and offered to betray Tripolizza, where they formed part of the garrison; but the offer was not accepted, and even the Albanians were many of them slain at the capture of the town. They were ill treated, too, by the Greeks, whom they assisted in the successful siege of Arta. Thus they were left to the mercies of the Turks, with whom, however, they are so little cemented that many of their chiefs joined with Russia in the Crimean war. In the later ages, at one time, the Albanians were all Christians; but after the death of their last chief, the hero Scanderbeg (q.v.), in 1467, and their subjugation by the Turks, a large part became Mohammedans, who distinguished themselves by cruelty and treachery toward the tribes that remained true to their old faith. The Albanians are divided tribally, but, to quote Lord Strangford, 'the true and intelligible division is that of religious denomination. The typical region of the Mussulmans is in the center; that of the Latins is in the n. district; and that of the Albanians in communion with the Greek church, corresponding fairly to Epirus, is in the s., with Janina for its capital. Yet, the conversion to Mohammedanism is more political than real, the men often going to the mosque, while the women go to church. As a whole the Christians of the n. are Roman Catholics, devotedly attached to their church, and bitter foes of the orthodox Montenegrins. Of the 1,400,000 Albanians of the Ottoman empire it is estimated that 1,000,000 are Mohammedans, 280,000 members of the Greek church, and 120,000 Roman Catholics. There are, besides, some 250,000 Albanians in Greece, and 100,000 in Italy (Sicily mostly), whither they emigrated toward the close of the 15th cent. By the treaty concluded then, in 1478, between the Turks and the Venetians, A. became a Turkish province, which almost gained independence under Ali Pasha (q.v.), but which, during the insurrection of Greece (1821-8), returned to at least nominal allegiance to the Porte. Ten rebellions have since broken out, the last in 1883. See Von Hahn's Albanesische Studien (1854), and his Reise im Jahr 1863 (1870); Herguard's Haute Albanie (1858); Knight's Travel in Albania (1880); Trubner's Grammaire Albanaise (1887); and other works cited in the full bibliography of Meyer's Albanische Studien (1883).

ALGERIA, *ăl-jē′-rĭ-ă* (Fr. *Algérie*): a country on the north coast of Africa, which, since 1830, has been gradually taken possession of by the French, and is now regarded by them as an outlying part of France, rather than as a colony. It lies between Morocco on the west side, and Tunis on the east, extending from west to east about 2° 8′ w. to 8° 50′ e. long. It extends from the Mediterranean on the north side to an ill-defined limit on the south side, which may, however, be generally taken at the extreme as the 30th parallel north, from Ghadames on the frontier of Tripolis on the east to a point north of Gurara, an oasis of Tuat, on the west. The total area would thus be about 255,000 sq. m., or more than twice the size of Great Britain and Ireland.

Configuration of Surface.—The coast-line on the north, about 625 miles long, in the form of a very gentle curve, is little indented, steep, and rocky, with only a few capes, and comparatively few good ports. From the coast inward A. is marked off into three distinct regions: in the north, the Tell—mountainous, cultivated land, with fruitful valleys; in the middle, the region of Steppes—mountainous table-land, traversed from west to east by a string of brackish lakes or marshes, called Shotts; farther south—the Algerian Sahara, with oases. The Tell, on the north side, is marked by a series of mountain-chains, called by the French the Lesser Atlas or Coast Mountains, comprising the Mountains of Blidah, 5381 feet high, and Jurjura, with the peak of Little Khedija, 7572 feet. Farther south, forming the south limit of the Tell, is a parallel chain, the Middle Atlas, extending from west to east. The Tell, forming the mountainous, most fertile, and much the most populous section of A., occupies an area altogether of about 54,000 sq. m., with an average breadth of about 47 miles. The central part of the country—the region of plateaus—extends farther south, from the borders of Morocco to those of Tunis. When the winter rains are past, the plateau, usually so bare and dreary, grows suddenly fresh with long grass and aromatic herbs, yielding fodder to the cattle that are there reared. The south limit of the middle table-land of A. is formed by the chain forming the north boundary of the Sahara, culminating in Sheliah, 7585 feet, the highest point of A. The Algerian Sahara, constituting the third division of A., and covering an area larger than that of both the divisions to the north of it, consists partly of sandy dunes, partly of country covered after rain with herbage; and there are oases round the wells. The Sahara is diversified by masses of rock, often ranged in long parallel chains. The Wady Igharghar is a channel 750 miles long, running from south to north.

The more considerable streams of A. rise in the middle region, and have therefore to seek their outlet in the Mediterranean, through passes in the middle and coast ranges. They are mostly of a slow current, with narrow mouths often choked with sand. Though swollen in the winter, they shrink in the summer to a thread, or even quite out of sight. Not one of them is navigable, but they are used for purposes of irrigation.

Climate.—The climate of A. is distinguished into only three seasons: winter, from November to February; spring, from March to June; summer, from July to October. In winter is the rainy season; rain falls especially in October and November. The season most congenial for Europeans is spring. In July begins the great heat, and on through the four summer months it is seldom that any rain falls. After a hot day, the night is often very cold. The climate of the Sahara is quite tropical, and very oppressive to Europeans. The planting of forests, drainage, and irrigation, under the French, are effecting a great improvement in the climate. The draining of Lake Hallula in the plain of Metija has given 34,000 acres of good land to cultivation.

Products.—In the Sahara, by the sinking of artesian wells, desert tracts have been converted into cultivated land, and in ten years the inhabitants of the Sahara oases have increased from 6600 to 13,000, while about 517,000 palms and 90,000 fruit trees are now counted. A. is coming to the front as a wheat-growing country, and between 1864 and 1885 had doubled its export of this cereal. Fruits and vegetables are grown in large quantities in the neighborhood of the town of A. for the markets in France, England, and Germany. The cultivation of the grape, silk, and tobacco is rapidly extending. Immense tracts of land, suitable for no other cultivation, are being successfully planted with vines, and A. promises to develop into a great wine-producing country, the product of the older vineyards comparing favorably with the best French wines. The forest vegetation of A. is extremely rich by nature, comprising pine, oak, cedar, pistachio, mastic, carob, olive, myrtle. Special reports are cork and alfa or esparto grass. In 1885, 45 million acres were occupied by an agricultural population, fifteen-sixteenths being in the hands of Europeans. Of this area, 7,300,000 acres were under cereals, 113,000 acres under vines, 21,700 acres under tobacco, 5 million acres under forest. The olive crop for 1886 yielded 54,764,000 lb. of fruit and 9,034,652 gallons of oil. The tobacco yield in 1887 was 11,390,000 lb. The vineyard area, 1887, was 70,041 hectares, producing 1,665,995 hectolitres of wine. The table-lands grow an inexhaustible supply of alfa. A. has been ascertained to have a very considerable wealth of metals, iron and copper being particularly abundant, though yet little worked. Over 100 mineral springs are counted in Algeria.

Population, Trade, and Industry.—Officially, A. is divided into a civil territory of three departments, and a military territory of three divisions, distributed as follows:

Territories.	Area in square kilometres.		Population.	
Civil Departments—				
Algiers Province............	23,550		1,202,768	
Oran Province..............	24,643		752,554	
Constantine Province	26,043	74,236	1,369,153	3,324,475
Military Divisions—				
Algiers Province.............	81,617		177,773	
Oran Province...............	61,460		117,951	
Constantine Province........	101,021	244,098	197,266	492,990
Total Algeria, exclusive of Sahara ...		318,334		3,817,465

Of these 2,014,013 were males and 1,791,671 females. The population of Algiers, 1886, was 74,792, Oran, 67,681, Constantine, 44,960. Of a population of 3,310,412 in 1881 excluding nomads), 233,937 were French, 35,665 Jews, 114,320 Spaniards, 33,693 Italians, 15,402 Anglo-Maltese, 4201 Germans. The number of Europeans, in 1830 only 600, and in 1840, 27,000, amounted in 1881 to over 400,000. The French Mussulman subjects numbered, in 1881, 2,850,866. The agricultural population of Algeria in 1887 was 3,246,259, of whom 200,598 were Europeans. The native population is divided between Arabs and Berbers. To the former belong the Bedouins, living in tents or travelling-huts, and dating mostly from the third Arab invasion in the 11th century. They live chiefly in the Tell, tilling the land and rearing cattle, but are also numerous in the Sahara, where they only rear cattle. In 1887 A. raised 1,198,157 cattle, 9,357,774 sheep, and 4,666,119 goats. The wool is of good quality and in great demand in France. The Moors, settled in towns, about two millions, are partly of Arabian and partly of the old Mauritanian or Berber stock: they are an impoverished and dwindling population. The Kabyles or old Berbers, about 700,000, inhabit mostly Constantine. There are also negroes employed as day laborers and servants. In 1885, 1050 English miles of railway were open for traffic, and in 1887 the railway from Oran to Tunis, *via* Algiers and Constantine, between 800 and 900 miles long, was completed. In 1889 there were 1900 miles of railway, with receipts of $4,213,819. Railroad building increases yearly. The main line runs parallel with the coast from Morocco to Tunis. The telegraph of A., including branches into Tunis, measured in 1886, 11,112 miles of wire. In 1887 there were 7000 miles of telegraph and 16,000 miles of wire operated by a subsidized company. Telephones are also set up in Algiers and Oran. The people have asked the French government to guarantee a loan of $80,000,000 for new railroads, harbors and other remunerative works. A. possesses 192 post and 44 telegraph offices. The caravan routes of western A., starting from Oran and Tlemcen lead first to Tuat and Insalah, and thence to the Sudan, the Negro lands and Timbuctoo. These highways are equally in communication with the provinces of Algiers and Constantine.

The trade of A. shows a constant increase. Since the French occupation the imports have increased fifty, and the exports one hundred fold. The imports, three fourths of which come from

France, varied in the period 1881-5 from $42,680,000 to $58,200,000. The total value of the imports for 1888 was $46,981,624 of which France furnished $34,726,021 and the French colonies $3,259,775. The exports, two-thirds of which go to France, varied from $29,100,000 to close on $38,800,000. In 1888 the exports to France amounted to $31,887,674, total exports $39,539,913, against $37,191,860 in 1887 and $36,151,024 in 1886. The principal exports to France, 1888, consisted of cereals, $6,400,665, wine, $8,585,689, animals, $6,809,540, wool, $4,182,941. The alfa fibre exported to Great Britain, 1888, amounted to 248,000 tons, or $2,200,000. The imports are chiefly manufactured cotton, hemp, linen, silk, and woolen stuffs; cloths, sugar, hides, paper, liquors, metals, building materials, etc. The exports are cereals, wool, raw hides, living animals, minerals, early fruit, alfa and other vegetable fibres, cork, iron, copper, and lead ores. In 1886, 432,671 tons of iron ore to the value of $720,805 were exported, mostly to the United States.

Administration and Religion.—From 1834 down to 1870 A. was entirely under military rule. At that date a civil governor-general, with residence at Algiers, was substituted for the former military governor, to administer the government of the colony. The new civil government extends, however, only over the settled districts, the Sahara and adjoining districts being still under military rule. The governor-general is assisted by a council whose function is purely consultative. The colonists send two deputies and one senator for each department to the French Chambers. Mediators between the native chiefs (Sheikhs) and the government authorities are formed by the Bureaux Arabes, whose function it is to take care of the religious and civil interests of the Arabs on the one side, and of the colonists in their relations to the natives on the other.

The total expenditures for 1888 were about $24,722,834, of which $8,720,577 was for the civil administration, $10,670,488 military service, $5,331,759 for extraordinary expenses, and $563,000 for colonization. The total expenditure in Algeria, 1830-88, was $1,008,613,292, of which $251,208,201 was covered by the receipts and $757,136,851 was paid from the French treasury, chiefly for military expenses. The total amount for colonization during the same period was $28,841,101. The revenue for 1888 was about $7,327,140.

The French troops in A. consist of one corps d'armée, which, including gendarmerie, numbers upward of 52,000. These are divided into a French corps remaining in garrison in A. a certain number of years, after which they return to France, and native troops which may quit A. only on extraordinary occasions. This latter division consists of three regiments of 'Tirailleurs Algériens' and three of 'spahis' or cavalry scouts. There are four regiments of 'Chasseurs d'Afrique' and of Zouaves, consisting solely of French officers and soldiers. A Foreign Legion, besides, of various nationalities, is mostly officered by Frenchmen.

Navy. The merchant navy of Algeria, 1888, consisted of 166 vessels, aggregating 4450 tons. The number of vessels entered, 1887, was 3956 of 2,085,755 tons; number cleared, 4269 of 2,328,482 tons, besides steamers and other vessels trading between the ports on the coast.

In general, all the inhabitants of A. are subject to the French tribunals. At the head of the Roman Catholic Church in A. is the Archbishop of Algiers, with four vicars general. Though the mosques and their lands are declared to be state property, the Mohammedan cult is supported by the state.

History. In the most ancient times we find the Numidians settled in the eastern part of the region, and the Moors (or Mauri) in the west. Under the Romans, the former was included in the province of Africa, while the latter was called Mauritania Cæsariensis. It had then populous cities, which were principally Roman colonies. But its conquest by the Vandals, about 440, threw it back into a state of barbarism, from which it only partially recovered after the Mohammedan immigrants had established their dominion. About the year 935, the city of Algiers (q.v.) was built by an Arabian prince Zeiri whose successors ruled the land till 1148, after which it was governed by the Almohades till 1269. It was then split up into many small territories. In 1492 the Moors and Jews who had been driven out of Spain settled in A., and began to revenge themselves on their persecutors by piracy. Ferdinand, the Spanish monarch, attacked them on this account, and took the city of Algiers in 1509. One of the Algerine princes, the Emir of Metija, now invited to his assistance the Greek renegade, Horuk Barbarossa, who had made himself famous as a Turkish pirate chief. This laid the foundation of the Turkish dominion; for when Barbarossa arrived in 1516, he treacherously turned his corsair bands against the Emir, whom he murdered, and then made himself sultan of Algiers. His subsequent successes alarmed the Spaniards, who marched an army against him from Oran. Barbarossa was defeated in many encounters, and, at last, being taken prisoner, was beheaded in 1518. His brother was then chosen sultan. He put himself under the protection of the Ottoman court, by the help of a Turkish army drove the Spaniards out of the country, and established that system of military despotism and piracy which the English, Dutch, French, Spaniards, and Americans from time to time in vain endeavored to extirpate, and which lasted till 1830. In that year the town of Algiers capitulated to a French fleet, and the French took possession of the place.

After the revolution of 1830, General Clausel set about subduing the country, and giving it a regular government; but he encountered the most determined opposition in Abd el Kader (q.v.), who soon became the rallying point of the 'holy war,' which the Marabouts had begun to preach. A disgraceful defeat suffered by the French army at Makta caused the recall of the first governor general, D'Erlon. Clausel was now sent back to A. with the title of marshal; but Abd el Kader was soon more powerful than ever, and General Bugeaud had to be sent out from France with reinforcements. In 1837, February, Marshal Clausel was recalled, and General Damrémont succeeded him. He first attacked the Kabyles of the province of Algiers, and chastised them with severity, and then commenced his great work of taking Constantine, which he ultimately succeeded in storming in May. This victory laid the foundation for the entire subjugation of the province of Constantine.

In 1837 General Valée was appointed governor general. He, like the others, misunderstood the character of Abd el Kader. New treaties were made, which only delayed hostilities. At last, however, deserted by most of his followers, and hemmed in on all sides, the Arab chief was forced to surrender to General Lamoricière at the close of December, 1847.

In 1848 the Kabyles broke out into a new insurrection, which, however, was speedily quelled. The French troops penetrated into the far south, almost to the borders of Sahara. In 1853-4, and again in 1856-7, expeditions were organized against the Kabyles. The struggle was sanguinary and barbarous on both sides; and it was only after several defeats sustained by the Kabyles, that in 1864, peace was restored by the submission of the conquered tribes. Pélissier having died in 1864, Marshal MacMahon was appointed to succeed him. In the following year the Emperor Napoleon made a journey to A., and issued a proclamation, in which, although explaining to the Arabs that A. must continue to be united to France, he promised to maintain their nationality; and at the same time gave them assurance that they should always remain in undisturbed possession of their territories. There was peace till 1870, when, the Franco-Prussian war having begun, the emperor found it necessary to withdraw to Europe the greatest part of the forces in Africa; and the natives began to entertain hopes of freeing themselves from the yoke of France. Movements were begun in the provinces of Constantine and Oran, which it required all General Durieu's vigilance and activity to hold in check. After this, again, some disorder arose among the colonists themselves, who strongly desired the abolition of the military government, a change which the new republican government at Paris soon gratified them by effecting. To Durieu's place was appointed a civil governor, and under him prefects for each of the three provinces. In 1881, when France entered on a campaign against Tunis, a chief raised the standard of revolt in A., and inflicted considerable losses on the French colonists.

See works on A. by Niox (1884), Gaffarel (1883), Bécquet et Simon (1883), MacCarthy (Paris, [illegible]), [illegible] (2d ed., 1874), Nettement (2d ed., 1870); also Reclus, Nouvelle Géographie (1877); A. Rambaud, France Coloniale [illegible]; Certeux and Carnoy, L'Algérie traditionnelle (vol. I., 1884), and De Lanessan, L'Expansion Coloniale de la France (1886).

ALSACE-LORRAINE, *ăl-sâs' lawr-rān'* (Ger. *Elsass-Lothringen*): since 1871 a state or 'imperial territory' (Reichsland) of the German empire, bounded w. by France, e. by Baden, and s. by Switzerland. Its utmost length, from n. to s., is 123 m.; its breadth varies between 22 and 105 m.; and its area is 5,668 sq. m., of which 1,370 belong to Upper Alsace (in the s.), 1,866 to Lower Alsace (n.e.), and 2,431 to Lorraine (n.w.). Population (1871), 1,549,738; (1885) 1,564,355, of whom 78 per cent. were Catholics, and 80 per cent. German-speaking; 1,368,711 were natives of A.-L., and 151,755 Germans from other parts of the empire. Since the incorporation of the Reichsland with the German empire the population has actually been decreasing, chiefly through the emigration of the natives averse to German rule. There is a large popular literature in the Alsatian (German) dialect, a branch of the Allemannian. The French-speaking population is mainly in the larger towns and in Lorraine. The Rhine flows 115 miles n. by e. along all the e. boundary, and receives, below Strasburg, the Ill from Alsace, 127 m. long. Other rivers are the Moselle, flowing through Lorraine past Metz, and its affluent the Saar. Along the Rhine is a strip of level country, 9 to 17 m. broad, and declining from 800 to 450 ft. above sea level. W. of this rise the Vosges mountains, culminating at a height of 4,677 ft.; while Lorraine, rather hilly than mountainous, rarely attains 1,300 ft. About 48.5 per cent. of the entire area is arable, 11.6 meadow and pasture, and 30.8 under wood. A.-L. produces much wine, grain, and tobacco; it is rich in mines, iron, and coal; and manufactures iron, cotton, wool, silks, chemicals, glass, and paper. It contains the important cities of Strasburg (111,987), Mühlhausen (69,759), Metz (54,072), and Colmar (27,000). The lieut.-gov. (statthalter), Prince Hohenlohe-Schilingsfürst, representing the imperial government, resides at Strasburg, and is assisted by a ministry of five departments, and a council of state.

A.-L. has (1891) a revenue of $11,382,048; expenditure of $11,382,048; debt of $6,256,864. A.-L. had (1890) 848 m. of r.r., of which 808 belonged to the state. In 1885, 4.7 per cent. of the population received poor relief; and in 1888 11,047 persons were convicted of crime. In 1890 the reichsland contained 1 university (Strassburg), 17 gymnasia, 8 real schulen, 1 high school, 1 Latin school, 1 gewerbeschule, 9 normal schools, 21 state high schools for girls.

In Cæsar's time A.-L. was occupied by Celtic tribes, and formed part of ancient Gaul; but during the decline of the empire, the Alemanni and other tribes from beyond the Rhine occupied and largely Germanized it. From the 10th cent. it formed part of the German empire, under various sovereign dukes and princes, latterly of the house of Hapsburg; till a part of it was ceded to France at the peace of Westphalia (1648), and the rest fell a prey to the aggressions of Louis XIV., who seized Strasburg (1681) by surprise in time of peace. By the peace of Ryswick (1697), the cession of the whole was ratified. Thus—as the Germans used to complain—was this fine land, with one of the noblest branches of the race, alienated from the German people, and the command of the German Rhine disgracefully surrendered to the enemy in the time of misfortune. German never ceased to be the chief language of the people, and all newspapers were, during the whole period of the French possession, printed in both languages. In 1814-5 Russia would not hear of the restitution of A.-L. to Germany; and it was not till 1871, after the Franco-German war, that Alsace and German Lorraine were, by the treaty of Frankfort, incorporated in the new German empire. The great mass of the population were strongly against the change, and 160,000 elected to be French, though only 50,000 went into actual exile, refusing to become German subjects. For, at least since the era of the revolution, A. in sentiment was wholly French. To France she gave the bravest of her sons—Kellermann, Kléber, and many another hero. Strasburg first heard the Marseillaise; and MM. Erckmann-Chatrian, Alsatians both, have faithfully represented their countrymen's love of La Patrie in the days of the second as of the first Napoleon. Nor have the Germans done much to endear themselves, with their strivings at Germanization, [illegible], and their compulsory service in the German army. The Reichstag elections of 1881-4 showed a much stronger anti-German feeling than those of 1874-8; and during 1880-5 no fewer than [illegible] left their homes, their place being only partially occupied by new immigrants from Germany. France, too, is always thinking of her loss [illegible] some day to retrieve it, and the imperial territory [illegible], remains a perpetual cause of strained relations between France and Germany. For the history of Lorraine, see LORRAINE.

AMERICA, *a-mĕr-ĭ-ka:* one of the five great divisions of the globe. Its relative size and importance can be seen at a glance at the following table:

Grand Divisions.	Area sq. m.	Population.	Population to sq. m.
Asia	14,710,000	830,000,000	57.
America N*	11,334,800	89,550,000	8.
" S.	6,837,000	36,420,000	6.
America Total	18,171,800	125,970,000	7.
Africa	11,514,000	127,000,000	11.
Europe	3,555,000	380,200,000	101.
Australasia	3,288,000	4,730,000	1.4
Total	51,238,800	1,467,900,000	28.

* Including Arctic Regions.

Thus it will be seen to be larger than Asia, and nearly equal to Europe, Africa, and Australasia combined. That is of course reckoning in the Arctic regions properly belonging to it. It is at once less densely peopled and capable of supporting a larger population than any of the other grand divisions. A. is the only one of the quarters of the globe that is washed by all the oceans—Arctic, Antarctic, Atlantic, and Pacific.

If Tierra del Fuego and Greenland are included—as ought to be done on geological grounds—A. occupies about 150° of long. and about 135° of lat. Speaking generally, its extreme length may be said to be on a meridian and its extreme breadth on a parallel—facts which, in the light of analogy, look more like a law than an accident. As the map will show, similar coincidences occur in S. A. by itself; in Africa, in Europe, in Asia, and in Australasia. As between Asia and A., moreover, it deserves to be noticed that the meridional semicircles, along which run their respective lengths, form, with an interval of 180°, one and the same meridional circle.

As the old continent has been divided at Suez, so A. has been divided by nature into two peninsulas—Darien being the isthmus, while S. A. corresponds with Africa and N. A. with Asia and Europe. Even to this extent, however, the resemblance is by no means close. In the new world, the whole of the lower peninsula is to the s. of the whole of the upper one, while Asia overlaps half the latitude, and more than half of the magnitude, of Africa.

On the n. half of A., the s. section, on account of essential differences in character and appearance, is in general contemplated by itself under the name of Central A.—the most convenient limit, perhaps, being a line drawn from the mouth of Rio Bravo (Grande) del Norte, following the channel of the river up to El Paso del Norte, thence westward to the n. end of peninsular California, and this line, besides its geographical propriety on both coasts, has the recommendation of marking on the nearer coast the international boundary of the United States and Mexico. Central A., it is to be observed, formerly had a political signification, comprising in this sense the comparatively small states between Mexico and New Grenada (now the United States of Colombia)—Guatemala, Honduras, San Salvador, Costa Rica, and Nicaragua.

Physically, however, these three subdivisions of A., viz.: N. A., Mexico, and Central A., or N. A., Central A., and S. A., for it is equally true of both, may be regarded as one, being knit together on the w. side by a backbone, as it were, of mountains which, under various names and various aspects, stretches from the extreme s. at Cape Horn to nearly the extreme n. at the mouth of the Mackenzie. To this mountain system we shall have occasion to refer under the distinct heads of ANDES, CORDILLERAS OF CENTRAL A., and ROCKY MOUNTAINS, restricting ourselves at present, in accordance with the general aim of this article, to such features of the entire chain as may incidentally come under our notice in connection with earthquakes, volcanoes, climate, or hydrography. With regard to this article generally, the subject being A. as a whole, we shall, as seldom and as little as possible, anticipate details which must still be repeated under the respective heads of their proper localities.

In illustration of the contrast between the e. and w. coasts of A., we are told, by the traveller already cited, that at the mouth of the Columbia river, the first half of Dec. presented one deluge of rain after another from the s.e., this weather winding up on the 16th of the month with a storm of thunder and lightning; 'while, to mark the difference of climate between the two sides of the continent, the good folks of Montreal, though occupying a lower parallel than ourselves, were sleighing it merrily through the clearest and driest of atmospheres.' Nor is the difference, according to the same authority, less palpable in the old continent than in the new. 'To place in the most striking light the contrast in point of climate between the opposite shores of the old continent, Kamtchatka and the British isles may be said, with sufficient accuracy for this purpose, to lie in the same latitudes, and to present the same area, and even to occupy the same position with respect to the proximity of water; and yet, while the British isles, with but little foreign aid, feed at least 38,000,000 inhabitants, Kamtchatka, with the help of extraneous supplies, can barely prevent its population of 4,000 souls from starving.

But whatever influences may be common to the climates of both continents, the climate of A. is subject to two peculiar influences—that continent's prolongation s., and its backbone of mountains. With respect to the former point, A. advances at least 20° further s. than Africa—fully more than half the interval between the latter and antarctic ice; so that the s. breezes, which, in summer, bring freshness and delight to the cape of Good Hope, waft cold and misery to Cape Horn. The backbone of mountains, again, that other point which peculiarly influences the climate of A., does its work in two ways. Throughout almost its entire course, its height arrests the passage of the clouds and rains. Within and about the tropics, these are borne from the e. by the trades; in the more temperate regions, they are brought from the w. by the prevailing counter-currents of air. But in either case, the windward slope of the mountain barrier is a fertile garden, the leeward slope a barren desert. In the more central plateaus, again, of Quito and Mexico, the various terraces present as many climates, and bring together, under the same parallel, all the temperatures and energies of nature.

But there exist, more particularly in N. A., peculiarities of climate which cannot, perhaps, be referred to any known cause. On the opposite sides, for instance, of the great water-shed between the gulf of Mexico and Hudson's bay, antagonistic results are said to show themselves in winter. On the n. side, the climate is understood to improve as one advances w., the Saskatchewan, though in a considerably higher latitude, opening earlier in spring than the St. Lawrence; whereas, on the s. side, ice forms in New Orleans, at the mouth of the Mississippi, strong enough to bear half grown boys, a thing wholly unprecedented on the corresponding parallel of the shore on the e. side of the Atlantic. Even in summer, at least on the n. side of the water-shed in question, something of a similar change of climate has been observed, for maize, which, in Lower Canada, is a precarious crop, even on the international line of 45°, regularly ripens in Winnipeg, which, besides 5° more of latitude, is at least 1,000 ft. higher above the level of the sea.

In thus treating of A., we shall consider separately its earthquakes and volcanoes, its climate, its hydrography, its history—comprehending its discovery and its colonization, but excluding anything like the annals of any individual state—and, lastly, its geology, botany, and zoology.

The earthquake and volcanoes of A. are to be found chiefly in the backbone of mountains already mentioned. In South A. there may be said to be exclusively so found, being confined to the Andes proper, that skirt the Pacific, and to the Venezuelan spur or branch of the main range. The same remarks may be applied to Central A. But in N. A., the energy which produces both classes of phenomena appears to have followed rather the coast, than the continuous chain which diverges gradually from it—earthquakes being often felt in the maritime towns of upper California, and volcanoes having left their traces behind them on the island of Alaska. The agency in question seems to have travelled from n. to s. along the coast, having exhausted itself in its more ancient seats; and this view derives support from the formation of the Sandwich islands, which are as nearly as possible parallel with the w. coast of A. between Behring strait and the equator. On this interesting subject we quote from Sir George Simpson's Overland Journey: 'The whole group appears to have been thrown up from the deep by volcanic action advancing from the n.w. to the s.e., and increasing in force as it advanced, so that, while island rose after island, each grew at once in height and in breadth, according to the intensity of the power that heaved it upward from the waters. Thus Bird island, a barren rock taking its name from its only inhabitants, must be considered as the germ of the archipelago, as the first fruits of a submarine energy that was here only kindling its fires; while the other links in the chain, Kauai, Woahoo, Mowee, and Hawaii, not only differ, as I have just mentioned, at once in extent and in elevation, but also present, as they proceed, less and less evidence of antiquity in their gradually diminishing proportions of land incapable of cultivation—a proof the more conclusive, inasmuch as the soil of the whole group undeniably consists of the successive gifts of years and ages and centuries. Moreover, the visible laboratories of the subterranean fire, which are scattered over the archipelago, confirm the same view; the craters are all extinct, excepting on Hawaii, and even on Hawaii, Mouna Loa, the most s.e. of its three great safety-valves, alone bears living testimony to the creative impulse that has called the whole chain into existence, and bears it, too, only through its lateral volcano of Kilauea, which, besides itself looking to the e., appears, by the gradual advance of subsidiary outlets down its e. declivities, to be rolling the hidden sources of its strength peradventure there to forge fresh islands under the bed of the ocean.

Climate. In comparing A. with the older continent, we must contrast not e. and w. with each other, but w. with w., and e. with e.—neither Newfoundland with England, nor British Columbia with Kamtchatka, but Kamtchatka with Newfoundland, and England with British Columbia. Such a comparison shows that the difference lies not, as is often assumed, between the two continents, but between the opposite shores of either continent within itself. For instance, at Nain, in Labrador, the mean temperature is 7° Fahr. below freezing; while at Sitka, New Archangel, in Alaska, it is 12° above freezing. This difference of 19° between the e. and w. coasts of the new world, is only a very little less than the difference between the e. coast of the new, and the w. coast of the old; for the temperature of Gottenburg in Sweden, is only 27° higher than that of Nain. It is to be remarked, however, that this difference between the opposite coasts of the two continents diminishes as we proceed s. New York is only 7° colder than Naples; and Florida has the same temperature as Cairo.

With respect to that portion of A. which is best known, a popular misapprehension generally prevails as to the steadiness of its climate in any given season of the year. The Canadian summer, for instance, is supposed to be an unbroken period of tropical heat; and the Canadian winter to be, in its turn, an unbroken period of hyperborean cold. Now, in both directions, this is a great mistake. The summer of British A. is often tropical, and its winter often hyperborean, the extreme ranges of the thermometer, according to the experience of credible informants in localities to the s. of London, sometimes being, in one and the same year 104° Fahr. above zero, and 52° below it. But this difference of 156°, which is measured probably by an interval of six months, is far less remarkable than the differences which a few days may bring forth. The highest range occurred within four days after parlor fires had been given up, and the lowest fell on a day which, a year or so before, had been marked by a powerful thaw. In the city of Montreal itself, 36 hours, or less, have sometimes exhibited a difference, up or down, of 60° Fahr. in winter; and even in summer, whether in lower Canada or in the n.w., one can seldom reckon on any other month than July as free from actual frosts. In this respect the Canadian climate may be taken as a sample of the climate of N. A. in general, extreme ranges of temperature, as prevailing respectively in summer and in winter, being naturally attended by more or less considerable vicissitudes in each individual season.

In the tropical regions, however, of A., whether central or s., a singular uniformity of temperature is said to exist on each of the various terraces of the mountain chain. The same parallel, as has been already mentioned, presents at once the torrid, the temperate, and the frigid zones. Such a view of the matter, however, is to a certain extent, deceptive, for in not one of the three terraces are the vicissitudes of the respective zones, properly so called, found to show themselves. Each level is said to be so steady in its temperature as to enfeeble and enervate the inhabitants through the monotony even of that which is in itself good; and, in such cases, the salutary prescription is to ascend or to descend, for a time, from one terrace to another.

Hydrography.—With the backbone of mountains as the principal water-shed of A., the rivers on opposite sides of the continent are still more different than the climates. Excepting in Central A., the difference in question is enormous. Even in N. A., where it is less than in S. A., the contrast is sufficiently striking. On the w. side of the Rocky mountains, the only streams worthy of notice in such a summary as this are the Colorado, which flows into the head of the gulf of California; the Sacramento, which enters the harbor of San Francisco; the Yukon, the Frazer, and the Columbia, which empty themselves into the open ocean, five rivers which, if compared with the waters of the opposite coast, are, in practical value, each hardly equal to the Hudson, and together not greatly exceeding in volume the Rio Grande del Norte. On the e. side, however, there exist rivers to which the Rio Grande del Norte and the Hudson are but as brooks. To begin with the extreme n.: the Mackenzie, besides draining a large basin on its own side of the Rocky mountains, draws from beyond them two of its principal feeders, the Peace and the Liarde, burying itself, however, under the perennial ices of the Arctic ocean. Passing without further notice, the Coppermine and the Fish rivers, of both which the interest is purely historical in connection with arctic discovery, we come to the Nelson, which brings down to Hudson's bay the Winnipeg and the Red river, two streams bordering respectively on the head waters of the St. Lawrence and the Mississippi, and also the two branches of the Saskatchewan, which all but touch the sources of the Columbia and the Missouri. Next in order is that long alternation of mighty river and mightier lake—that reservoir of half the life-blood of the earth—which, under the name of the St. Lawrence, gradually becomes a sea. S. of the St. Lawrence, along the coast, we meet the Atlantic streams of New Brunswick and the United States, all of them valuable beyond their magnitude, and most of them connected, more or less closely, with the Alleghanies—the St. John, the Penobscot, the Connecticut, the Hudson, the Delaware, the Susquehanna, and the Potomac. Round into the gulf of Mexico, and we reach, besides many second-rate rivers in either direction, perchance the most important stream on the face of the globe—a stream which, after uniting the Mississippi and the Missouri under the name of the former, receives on the right the Arkansas and the Red rivers, and on the left the Ohio, enriched, as it is, with the tributes of the Wabash and the Tennessee.

In S. A., again, the difference between e. and w. is still more remarkable. On the w., the Guayaquil, the only stream worth mentioning, is not to be compared even with the rivers that flow from the subordinate ranges of Brazil or Guiana; while, on the e., the Andes send down, besides the Magdalena flowing into the Caribbean sea, the Orinoco, the Amazon, and the Plata, into the open ocean across the almost entire breadth of the continent—three networks of inland navigation, which, under the head of the Amazon (q.v.), we have already shown to be virtually one, and, beyond that, to be virtually linked with the Essequibo of British Guiana.

Nor will the disparity between the two coasts of the continent be less striking, if the harbors are considered as well as rivers, the external outlets as well as internal channels. On the Pacific, S. A. possesses, to the n. of Chili, only two ports entitled to the name, Panama and the Guayaquil already mentioned; while, on the same coast, N. A., along a line of 3,000 m. up to British Columbia, presents only five safe and convenient havens—Acapulco, Mazatlan, Magdalena bay, San Diego, and San Francisco. But the Atlantic side presents a contrast to which no language can do justice. To take the divisions as they come: Newfoundland has its St. John's, Cape Breton its Louisburg, Nova Scotia its Halifax, New Brunswick its St. Andrews, Maine its Portland, New Hampshire its Portsmouth, Massachusetts its Boston, Connecticut its New Haven, Rhode Island its Newport, and so on. Nor is this all. While fully a third part of the rivers of Europe and Asia are lost to the commerce of the world at large in the frozen seas of the n., or in such land-locked pools as the Aral and the Caspian, all the considerable rivers of A., with the Mackenzie as the only exception, are, more or less, channels of communication between the open ocean and the interior. To take the three grandest examples: the Amazon, with a basin estimated to contain 1,[illegible] sq. m., is navigable for steam vessels up every one of its main branches, nearly to the e. foot of the Andes, thus comprising several available lines of 2,500 m. each, and presenting, as a whole, a network of such lines to the amount of at least ten times that length. The Mississippi, again, navigable as it is at once to the Alleghanies and to the Rocky mountains, and between them, more to the n., as far as the Falls of St. Anthony, has been computed to afford to the steam vessel an uninterrupted career of 36,000 m. But perhaps the St. Lawrence, if less extensive, is more marvellous still. Owing to British improvements of its channel, New York and Pennsylvania have virtually a seaboard

on their inland shores; while Ohio, Indiana, and Illinois, accessible to ships from the gulf of St. Lawrence by the lakes, and from the gulf of Mexico by the Mississippi, far eclipse, in the heart of a continent, the peculiar boast of ancient Corinth as the mart of two seas.

To append a few subordinate examples: nearly all the considerable rivers along the coast between the St. Lawrence and the Mississippi possess far more than an average value, in proportion to their lengths, as arteries of internal communication. The Atlantic slope of the Alleghanies, in particular, presents, as a whole, perhaps twice as many facilities in this way as any other region of equal extent on the face of the earth—facilities, too, which have been not less zealously and successfully improved than those of the St. Lawrence. The Hudson has been, at vast expense, and with indomitable energy, connected with the basin of the St. Lawrence at three points—on Lake Erie, on Lake Ontario, and on Lake Champlain; and the Susquehanna has been in like manner connected with the basin of the Mississippi by a canal which terminates at Pittsburg on the Ohio.

But in one part of A., still smaller streams than these last are entitled to particular attention. We allude to those streams, five in number, which promise to vie with each other in connecting together **the Pacific and the Atlantic oceans.**

The five rivers in question form parts of three different routes. The Atrato of the Atlantic side co-operates with the San Juan of the opposite coast a little below the isthmus of Darien; the San Juan of the Caribbean sea, with the lake of Nicaragua, and with the smaller lake of Leon more to the w.; and, lastly, the Coatzacoalcos of the gulf of Mexico, with the Tehuantepec of the bay of its own name.

To begin with the first route: the Atrato and the San Juan flow, in contrary directions, through the slightly undulating country into which the Andes gradually subside as they approach the isthmus. Their head-waters are said to be near to each other, the Atrato being already navigable for small vessels, and the San Juan, manifestly a considerable stream, entering the sea by several mouths, after a course of 150 m. With such streams separated by such a country, a ship-channel between the two oceans does not by any means appear to be impracticable. Next, as to the second route, which, as well as the third, is already in actual use as a place of transit, the San Juan itself, about 100 m. long, has a gentle current, which, though in some places impeded by short rapids, is stated to be always navigable throughout for boats of 10 tons, and for much larger vessels a considerable distance from the sea. Lake Nicaragua, again, said to measure 140 m. by 40, is adapted for ships of any burden, being 15 fathoms deep. At its w. end it receives the Tipitapa from Lake Leon, which, with a length of 35 m., and a breadth of 15, is only 28 ft. higher than itself, or 156 above the level of the Pacific. Two schemes seem to be agitated with respect to the more w. portion of the route—one scheme proposing to avail itself of Lake Leon, and the other to carry the ship-canal at once from Lake Nicaragua. Lastly as to the third route, where the intervening land, actually designated as an isthmus, is only 130 m. wide; the Coatzacoalcos alone is said to traverse nearly the entire breadth; while the Tehuantepec, which gives name to the isthmus, goes far to **complete what the other has begun.**

The practical value of the enterprise of connecting by navigation the Pacific and Atlantic oceans is already evidenced by the fact that, in the face of the competition of the last **two routes**, the Panama r.r. is perhaps the most profitable undertaking of the kind in the new world. In fact, the completion of any one of these three routes for sea-going ships would be to realize Columbus' idea of a w. passage to the east.

The French, under the leadership of M. de Lesseps, the promoter and engineer of the Suez canal, undertook the task of piercing with a ship canal the isthmus of Panama. After a huge and wasteful expenditure, not half the excavation having been accomplished, the enterprise was abandoned for want of funds. The tropical climate has already obliterated much of the work done, and there seems but little chance of the enterprise being ever resumed.

The Americans have taken up the task of opening up the Nicaragua route. Much work has already been done, and the sympathetic interest of the U. S. government enlisted.

The canal starts from the mouth of the San Juan river, and rising by locks and dams to the level of Lake Nicaragua, crosses that sheet of water to La Virgen. It is to be noted that a channel will have to be blasted for many miles across the lake. From the Virgen's the route drops to the Pacific at Brito.

Most complete surveys have been made, and no insurmountable engineering difficulties have been found, so that the only thing needed for the successful carrying out of the enterprise are—money and time.

Of the lakes of A. a brief notice will be sufficient. In N. A., besides the vast reservoirs of the St. Lawrence, a line drawn n.w. from the centre of Lake Superior, appears, on the face of the map, to intersect a kindred series Lake Winnipeg, Lake Athabasca, Great Slave lake. and Great Bear lake—the first of the four being connected with the Nelson, and the remaining three with the Mackenzie. It may not be out of place to observe that the general direction indicated is pretty nearly parallel with the Pacific coast, just as the general direction of the St. Lawrence from the great bend at the head of Lake Erie is pretty nearly parallel with the Atlantic shores. As to the secondary lakes of n.w. A., their name is legion, almost every stream, whether large or small, expanding itself here and there vastly beyond its average width, and being, as it were, a St. Lawrence in miniature. One lake, or rather pond, is too singular to be overlooked. On the Athabasca pass of the Rocky mountains, where the road, little better than a succession of glaciers, runs through a region of perpetual snow, a small body of water, named by the Hudson's bay company's voyagers as the 'committee's punch-bowel,' sends its tribute from one end to the Columbia, and from the other to the Mackenzie. To proceed s. along the continent, Central A. abounds in lakes. The Leon and the Nicaragua have been already noticed. But such bodies of water are perhaps most numerous on the table-land of Mexico, or as it is often termed, the plateau of Anahuac. The largest of these is Chapala, estimated to contain 1,300 sq. m.—an area which, however insignificant in comparison with the great lakes of the n., is more than equivalent to a circle of 40 m. in diameter. Many of these reservoirs of the table-land have no outlet. Such is the case with the various lakes of the valley of Mexico, inclosed as they ar, by mountains at a height of 7,471 ft above the sea-level. Of the same description, too, is the lake of Titicaca, decidedly the largest in S. A. Raised by the table-land of Peru and Bolivia to a height of 12,545 ft., it yet has no outlet to the sea; for the Desaguadero, which drains it, loses itself in the apparently land locked Lake Uros to the s. Of this great body of water, the magnitude is not so well ascertained as its altitude. Besides such round numbers as 16,000 and 5,000 sq. m., which are never meant to be accurate, one is perplexed to meet statements so minute, and yet so discordant, as 4,032 and 2,225 sq. m. But even the lowest estimate is more than equivalent to a square of 47 m. a side—an area which, with a depth ranging up to 120 fathoms, exceeds, perhaps, anything to be found to the s. of the basin of the St. Lawrence. The dimensions of the lake are known to be 80 m. by 40.

The vast advantage in point of fluvial communication possessed by the new world over the old has already been adverted to. There is, however, a hydrographical feature in which one of the grand divisions of the e. continent is decidedly superior to A. The coast-line of Europe, in proportion to extent of surface, is incomparably longer than that of even the n. half of the w. continent. This is at once apparent on glancing at the two maps. It is surely a suggestive fact, that the two portions of the earth which are best fitted for human intercourse, are also hydrographically so connected as to be beyond comparison the most accessible to each other. The dividing sea, besides being itself physically by far the narrower of the two intercontinental oceans, is virtually narrowed still more by its winds and its currents. Along a belt of about 30° on either side of the equator, the e. trade with its attendant current wafts the voyager w. from Africa; while above that belt, the reaction, strengthened and accelerated by the peculiar formation of the Caribbean sea and the gulf of Mexico, is ready to carry him round again to Europe, under the double pressure of the gulf stream and its generally prevailing breezes from the s.w. Nor yet can the hydrographical relations of A. with Asia be denied their proportion of significance and influence, linked as the two continents are by Behring's strait, and twice bridged as is their ocean, first by the Aleutian isles—a continuation of the Kuriles and Japan—and then by the Polynesian clusters, that series of offshoots, as it were, from the Indian archipelago.

History.—We propose to glance at this under the three heads of Aboriginal Ages, Discovery, and Colonization.

As to the Aboriginal Ages, there arises a question, too interesting to be overlooked, and yet too doubtful to be solved, as to the origin of the native tribes and people of A. Without prejudicing the question (which will be considered under INDIANS) whether the aboriginal inhabitants of A. are to be considered, in an ethnological point of view as substantially of one stock, it appears highly probable that they did not all spring from one and the same primeval band of adventurers; in other words, that different colonies, voluntary or involuntary, must have reached the new continent at different times. This view, to say nothing of the direct testimony of local traditions, seems to be in itself more than probable, when we consider that, through the length and breadth of the universal ocean, even the most insignificant specks of land had each received, at least, one influx of human wanderers. But, beyond such probabilities and such traditions, the view in question is strengthened by facts, which it is difficult otherwise to explain—by diversities of language, by different degrees, or kinds, of civilisation, and, above all, by monuments, architectural or otherwise, of defunct races of bygone days. On this supposition, whence came the successive shoals of invaders? To this question no direct answer can be given. We can only scan the various routes by which, previously to what we call the discovery of A., the old world was most likely to people the American continent. To begin with the natural routes on the side of the Pacific—Behring's strait, the Aleutian isles, and the Polynesian archipelagoes—we can hardly conceive anything but barbarism having been conducted to A. by any one of them. The country which stretches back from Behring's strait to the Kolyma, may be asserted to be, without exception, the most inhospitable portion even of Siberia; and, moreover, the strait itself has more probably been a channel of migration from A. than from Asia, the Tchuktchi of the latter regarding themselves rather as a branch, than as the stem, of the Tchuktchi of the former. With respect, again, both to the Aleutian isles and the Polynesian archipelagoes, the successive stepping-stones in either series, instead of being presumed to have been so many halts for Asiatic Columbuses and Magellans, must rather be viewed as each a mother country to a new colony, as each a point of departure for a fresh swarm. Thus would the ever aggravating blight of isolation—exemplified even in the old world among the Laplanders, the Kamtchatdales, and the Hottentots—prepare at each remove a deeper and deeper barbarism to land at last on the w. shores of A. Further, if civilization, as certainly appears to have been the case, ever did find its way to A., it must have come directly and immediately from the old world, and that under circumstances and conditions of by no means a favorable character. In remote times, such 'accidents', or to speak more correctly, unintentional visits of Europeans and Asiatics may have occurred, as we know to have actually taken place in more modern days. Japanese junks have repeatedly been driven, by stress of weather, across the Pacific to the new world; and again, on the Atlantic, the e. trades, within eight years after Columbus' earliest voyage, wafted the unconscious Portuguese to Brazil, during their second voyage to India—the very first, in fact, which they had attempted by steering clear of the headlands of Africa. Such accidents, however frequently they might have happened, were much more likely to civilize existing communities than to found new ones; and it is at least a curious fact that the only aboriginal nations which could be regarded as in any sense civilized at the date of the Spanish conquest pointed in their traditions to such events as we have endeavored to describe. Mexico and Peru had each had its foreign, or semi-divine civilizer—the former referring him to the e., across the Atlantic, and the latter to the w., across the Pacific. How far such foreigners may account for the admitted facts, we are not left altogether to conjecture. Isolated individuals of our own race have [illegible] of the present to bear on the past. When we consider what William Adams achieved in Japan, 250 years ago, and what John Young and James Brooke have, more recently, effected in the Sandwich islands and in Borneo, we can perhaps the more easily understand certain undeniable traces and traditions of aboriginal civilization.

Discovery.—Whatever may have been the kind and degree of aboriginal civilization, A. was not destined to be the perpetual inheritance of the red man. New actors were to appear on the scene, before whom the red man was, in a great measure, to pass away.

Previously to the time of Columbus, Europeans had certainly visited A. The Northmen, after having colonized Iceland in 875 A.D., and Greenland in 983, had, in the year 1000, discovered A. as far down as [illegible] n. lat., a point near to New Bedford in the state of Massachusetts. These Scandinavians after settled in the neighborhood the mother-country, most probably through the intervention of Iceland and Greenland, maintaining an intercourse with the colony down to the 14th cent. But these enterprises do not appear to have left any special impress on the character or prospects of the new continent, being more akin, perhaps, to similar incidents of yet earlier ages, than to the long-meditated and well-matured scheme of the illustrious Genoese. Subsequently to the Scandinavian discovery, and previous to that of Columbus, A. is believed by some to have been visited by a Welsh prince. In Cardoc's Historie of Cambria it is stated that Madoc, son of Owen Gwynnedd, prince of Wales, set sail w. in 1170 with a small fleet, and after a voyage of several weeks, landed in a region totally different both in its inhabitants and productions from Europe. Madoc is supposed to have reached the coast of Virginia. Neither this, however, if true, nor the earlier Scandinavian expeditions, can be said even to have formed a connecting-link between the A. of the red man and the A. of his white brother. Even if the Northmen had possessed resources worthy of their heroic courage, the old world was not yet ripe for the appropriation of the new.

At the end of the 15th cent., however, science and politics were alike strengthening Europe for its task. The mariner's compass and the astrolabe had facilitated long voyages out of sight of land; while, in almost every country of Christendom, various causes were consolidating government, and promoting the growth of population—a position which derives, perhaps, its best illustration from the fact that the capture of Granada (the last foothold of the Moslem in Spain) preceded by only a few months the discovery of America.

Columbus (q.v.) set out on his great enterprise to discover A. under the patronage of the crown of Spain, on 1492, Aug. 3, Fri.; at which date, properly speaking, begins the deeply interesting history of A. Had the Atlantic been broader, or had not the e. trades wafted Columbus almost on a parallel from the Canaries to the Bahamas, he must have failed in his bold attempt; and, in fact, those same e. trades, assisted by a still nearer approach of the two continents, speedily proved their own value in this respect by carrying the Portuguese, without their own consent, to the shores of Brazil. Nay, Columbus' of A., if not so accidental, was quite as unintentional as that of the Portuguese. It was toward the e. that his hopes directed his w. course—hopes whose supposed fulfilment still lives in the misapplication to the new world of the terms Indian and Indies. Much of our subsequent knowledge of A. has been owing to the same desire of reaching the East Indies that led to its discovery. The gorgeous East was the aim alike of Davis, Baffin, and Hudson at the n., and of Magellan, Schouten, and Lemaire at the s., to say nothing of the earlier enterprise of Balboa on the isthmus of Darien; while, under a similar impulse, the French of Canada were ascending lake after lake as nature's ready-made highway to the same goal. Even to more recent times may these remarks be applied. While the e. coasts of Africa, and the upper shores of Asia, as not bearing on the grand question of oriental traffic, were comparatively neglected and forgotten, Cook and Vancouver, in quest of a passage between the two oceans, surveyed every nook and cranny of A. from Columbia river to Behring's strait. Nor yet have the aspirations of Columbus and his noble band of successors and imitators been altogether disappointed. That same continent which, in their case, barred a w. advance along nearly the whole interval between the arctic and antarctic circles, has to us already become, or is gradually becoming, more than a substitute for the ocean which it was found so extensively to displace. By means of the railway across the isthmus of Panama the Caribbean sea, whether for passengers or for goods, is virtually nearer to the Pacific than an open channel could have rendered it to any sea-going vessels. Nor is it merely across the scanty span of C. A. that art is outstripping nature in the race; for that mightiest of the modern achievements of man, the Central Pacific r.w. and its extensions in 1869 opened a continuous road from Philadelphia to San Francisco of 3,283 m., over which travellers are conveyed in four and one-half days. Since 1492, Oct. 11, the date of Columbus' first discovery, little more than three and a half centuries have elapsed; and if we look at the future in the light of the past, it seems not unreasonable to suppose that, by 1892, the locomotive will, within three days, connect together oceans physically as distant from each other as are the Bahamas from the Canaries. This has not yet been quite accomplished, though a close approximation to it has been made under pressure. The continent is now crossed by four great trunk lines—the Canadian Pacific, the Northern Pacific, the Central and Union Pacific, and the Southern Pacific, each rivalling the other in the superb service which it offers to the travelling public.

But Columbus found something better than what he himself or his successors and imitators looked for. He had discovered a land which, besides eclipsing India in the richness and variety of its commerce, was to confer on Europe a still more solid benefit. Colonization, which, since the early ages of Greece, had slumbered for 2,000 years, received an impetus, which, after building up empires in the w., was to build up others in an e. richer far than that which was so long the loadstar of European navigators—an e. where, almost without a metaphor, the grass was to be wool, and the stones to be gold.

The first fruits of Columbus' enterprise were the Bahamas, Watling island, probably, being the spot where he landed in 1492, Oct. 11. Without attempting, in so summary a sketch as this, to distinguish the results of each of his four voyages from each other, it may be sufficient to state that this great man, besides Hispaniola, or St. Domingo, Cuba, Jamaica, and others of the Antilles, discovered and explored Central A. from Honduras s. along the coast of Veragua, and S. A. from the mouths of the Orinoco w., as far as Margarita. It was on this last mentioned scene of his operations that he was followed by Hojeda, whose pilot, Amerigo Vespucci (q.v.), has been allowed to wrest from Columbus the glory of giving his name to the new world. Within 20 years after Columbus' first discovery, Ponce de Leon discovered Florida; and, what was certainly of far more consequence, he ascertained that, through the strait which separated that peninsula from the Bahamas, there constantly ran a strong current to the n.e. In 1513, again, just one year later, Vasco Nunez de Balboa crossed the isthmus of Darien to the Great South sea, or, as it was afterward named, the Pacific ocean. About thirteen years before this last event, almost immediately after Columbus' own continental explorations, the interval left between his most s. point from Honduras, and his most w. point from the Orinoco, was, in a great measure, filled up by the voyage of Bastidas. To the s., again, of the Orinoco, Pinzon and Solis sailed along the continent down to 40° s. lat., between the years 1500 and 1511. The former, after anticipating, by a few months, the Portuguese on the shores of Brazil, had seen the Amazon; and the latter, sent out for the express purpose of entering, if possible, Balboa's Great South sea, found his way into the La Plata or Plate, being there slain by the neighboring natives. Moreover, to return to the n., by the year 1518, different navigators had between them completed the examination of the gulf of Mexico. Within 25 years, therefore, after Columbus' first departure from Spain, the e. shores of S. and C. A., had been almost continuously explored by the Spaniards down to within 15° of the s. extremity of the continent.

Nor had other nations been idle in the n. The Cabots, on behalf of England, had discovered Newfoundland, and portions of the adjacent continent, in 1497. In 1500 the Portuguese, under the Cortereals, sailed along the coast of Labrador nearly up to Hudson bay, having, it is supposed, entered the gulf of St. Lawrence, long known among them as the gulf of the Two Brothers. Thus gradually there grew up the opinion, since proved to have been the true and sound one, that any practicable passage between the two oceans must be looked for toward the s. of the Plate. Accordingly, in 1519, Magellan, a Portuguese in the service of Spain, undertook the voyage in which was discovered the strait that bears his name—a voyage which furnished the first instance of the circumnavigation of the globe. Thus there remained little to be done, unless in the extreme n. and the extreme s. In the extreme s., Schouten, a Dutch navigator, discovered in 1610 the passage round Cape Horn, while six years thereafter, Lemaire, a mariner of the same nation, passed through the strait of his own name between Staten Land and Tierra del Fuego. Toward the n., again, the French and English divided the labors and honors of the enterprise between them. Scarcely had Magellan's companions—for he had himself perished—returned to Europe, when Verazzani, under the auspices of Francis I. of France, sailed along what are now the Atlantic shores of the United States, thereby connecting the discoveries of the Cabots with those of Ponce de Leon; and again, about 10 years later, Jacques Cartier, in the service also of the same prince, explored the gulf and river of St. Lawrence, penetrating as far to the w. as the island of Montreal. In the extreme n., however, the English may be said to have been without a rival. It is unnecessary in this summary sketch to do more than mention names which tell their own story on every map—Davis, Baffin, Lancaster, and Hudson. (See these heads.)

To pass now to the w. coast of A. The conquerors of Mexico and Peru effected, in a few years, more perhaps than they left behind them for future ages to effect, ranging along the coast from the s. extremity of Chili to the peninsula and gulf of California. Beyond Lower California, the only direction in which there was much to do, the English Drake, whose voyage took place in 1578, divided with the Spaniards the credit of having discovered upper California. For nearly two centuries, excepting the half fabulous voyages of Fonte and Fuca, the Spaniards and the English alike slumbered over their task; and it was not till toward the close of the last century, that Cook and Vancouver co-operated with Spanish and American navigators in dispelling the mystery that had so long hung over the n.w. coast of America.

To advert to inland discoveries: As early as 1537, within six years after the landing of Pizarro in Peru, and within two after the founding of Buenos Ayres, the Spaniards met each other on the e. borders of Peru, from the opposite shores of the continent; and in 1540, within three years more, they sent forth that expedition which ended in Orellana's exploration of the Amazon, from its source to its mouth. In the n. half of the continent, similar enterprises were of a much later date. It was in 1682 that the French first descended the Mississippi; it was in 1771 that Hearne traversed the wilderness from Hudson's bay to the mouth of the Coppermine; and it was respectively in 1789 and 1793 that Alexander Mackenzie reached the mouth of the river that bears his name, and passed through what is now British Columbia, to the shores of the Pacific ocean.

Colonization.—Among the European powers that colonized A., the most prominent were Spain, Portugal, France, and England. Spain, of course, took the lead, having, with few exceptions, accomplished its task before any rival state had entered on its share of the work. In one respect its colonies differed from all others on the new continent. Spain alone came in contact with civilization, such as it was among the aborigines; and, accordingly, in the cases of Mexico and Peru, colonization required to be preceded by something like regular war and formal conquest. But, notwithstanding this peculiar obstacle, the colonies of Spain grew at first with a rapidity which, perhaps, has scarcely found its parallel, even in the somewhat parallel case of Australia. As an illustration of this—for the statement needs no proof—it was colonial resources that armed Cortez and Pizarro for their respective enterprises. Without the direct and immediate aid, in either instance, of the old country, Cuba, within 20 years after the first discovery, equipped the conquerors of Mexico; while the town of Panama, only 12 years later, sent forth the adventurers that were to subjugate Peru. So unexampled a degree of vigor and vitality continued to advance in Spain's transatlantic possessions, precisely while they were so organized and conducted as to afford scope to individual ambition. Never, perhaps, was this scope sufficiently free and full, for even from the beginning government often embarrassed and blighted the fairest schemes by its jealous and suspicious interference. But, for a time, it generally found its account in tolerating the unrestricted liberty, or license, of its instruments. It was, therefore, only after law and order were established, and the original actors had disappeared from the scene, that the authorities of the mother-country stereotyped, as it were, their despotism along the length and breadth of every colony. From that moment vigor and vitality were succeeded by stagnation and torpor. Still, with such elements of prosperity on every side—above the earth and below it—material interests could not fail to flourish. But the soul had fled: the body alone remained behind. Under these circumstances, Spain, though continuing to claim the entire continent to the n., more especially on the Pacific, did very little to enforce its pretensions. To this remark, New Mexico and upper California were the only exceptions. It was not before 1581 that New Mexico was even occupied; and it was not till a century later that the province, after ten years of hard fighting, was finally subdued; while it was only in 1767 that the Franciscans, on behalf of Spain, took possession of upper California. But Spain never abandoned the hope of extending its dominions toward the n.w. coast. As late as 1790, that power, while restoring Nootka Sound, and acknowledging England's right of making other settlements, took the precaution, however, [illegible] expressly reserving a similar right to itself. And it was not till 1819, nearly 30 years later, that Spain formally ceded to the United States all its claims to the coast above the parallel of 42°. See further under the separate head of AMERICA, SPANISH.

The efforts of Portugal in the cause of American colonization were at first less energetic than those of Spain. In fact, Portugal, which had doubled the cape of Good Hope in the year 1497, was so zealously engaged in the e. as to allow an age to elapse before sending any colony to Brazil. The discovery of the country took place in 1500; but its colonization only in 1531, or rather 1548. Within 32 years thereafter, in 1580, Brazil, at the same time as Portugal itself, was annexed to the Spanish monarchy, soon afterward falling in this its new character, partly into the hands of the revolted Hollanders. In 1640, Brazil, as well as Portugal, threw off the Spanish yoke with the help of the Dutch settlers. But the continued presence of the latter retarded the progress of the colony. It was only after their expulsion, that the Portuguese, who had lost nearly everything in India, turned their attention more largely to Brazil. It accordingly became the most flourishing colony, as such, to the s. of the English settlements; and, as the refuge of the house of Braganza from French domination, it received, about 50 years ago, an impetus which rendered it, as an independent state, the most flourishing power of S. A., although this prosperity proved no hindrance to the expulsion of the Braganzas and the establishment in name of the republic which had long practically existed in fact.

France, as the claimant to the basins of the St. Lawrence and the Mississippi, may be said rather to have pitched camps than to have planted colonies, in those vast possessions. She regarded A. chiefly as a supplementary battle-field for England and herself. Every French settlement was but an inert part of a political machine, powerful, indeed, but unwieldy, expensive, and unproductive. The government was everything, and the individual subject was nothing. Hence, neither Louisiana nor Canada at all realized our idea of a colony. In corroboration of this may be cited two authentic and official facts. As an encouragement to marriage, rewards and exemptions were held out to the parents of three children; and the erection of a dwelling on a lot of less than 40 arpents (about 32 acres) was prohibited by a royal ordinance. In 1762 France gave up Canada to England, and, as an indirect concession also to the same power, transferred Louisiana to Spain—events which, singularly enough, did much to facilitate France's grand scheme, the separation from England of her old colonies.

England, the most energetic and successful of all in the work of colonization, was the last in the field among the four powers already mentioned. Among her continental colonies, to say nothing of Newfoundland, Virginia, the oldest, was established in 1607, just four years after the union of the crowns; and Georgia, the youngest, as late as 1733. With these two exceptions, the remaining 11 were, one and all, founded during that period of civil and religious troubles which, in the mother country's own history, sent one Stuart to the scaffold and drove another into exile. In 1620 Massachusetts was occupied by the Puritan fathers; in 1623 and 1631, respectively, New Hampshire and Connecticut were first settled; in 1634 Maryland was granted to Lord Baltimore, a Roman Catholic nobleman; in 1636 Rhode Island became a refuge from the sectarian intolerance of Massachusetts; in 1653 North Carolina became an offshoot from Virginia; in 1664 New York, New Jersey, and Delaware were taken from the Dutch; in 1670 South Carolina was established; and in 1681 Pennsylvania was granted to William Penn, the Quaker, and continued to be a proprietary government down to the revolution. In nearly all these cases the civil and religious liberties, for which chiefly the colonists expatriated themselves, were secured by liberal and virtually republican charters. Subject only to the appointment of a governor on the part of the crown, every colony was practically a state within itself; and it is a suggestive fact that the very earliest assertion of legislative superiority on the part of the mother country was 7 and 8 Will. III., c. 22, which, however, only operated negatively by forbidding every colony to make laws repugnant to those of England. With such aspirations and such institutions, the enterprising inhabitants of a new home could not fail to prosper, wherever their prosperity was rendered more solid and permanent by the comparative poverty of a region where steady industry in agriculture or in the fisheries, was, as it were, a necessary of life. Under these circumstances the germs of political independence were growing long before 1763; and it is not merely a probability, but a fact, that the expulsion of the dreaded power of France from Canada and Louisiana in 1762, was closely connected with the troubles which so soon began. See AMERICA, BRITISH.

The colonization of the West Indies, Guiana included, will be seen at a glance in the appended table of American governments.

It may be added, in conclusion, that the whole of A. is now in the hands of European races, excepting only the negro republics of Hayti and San Domingo which divide between them the island of Hispaniola.

American Antiquities.—The architectural remains to which we have already alluded in connection with a general estimate of aboriginal civilization, are to be found in each of the grand divisions of the new continent. To begin from the n. That portion of the United States which lies between the Appalachians and the Rocky mountains, presents in three groups at once the oldest and the rudest monuments of bygone times; the first group extending from the sources of the Alleghany to the waters of the Missouri; the second occupying the Mississippi valley, vaguely so defined; and the third stretching from South Carolina to Texas. These several groups, apparently with very little difference among themselves, consist of numberless mounds, and circumvallations of earth and stone—1,500 of the latter, and 10,000 of the former, being said to stud Ohio alone. The erections themselves range from 5 to 30 ft. in height; while the areas inclosed—generally of some symmetrical figure, such as circle or ellipse, rectangular parallelogram or regular polygon—vary from 20 to 40 acres—though among a few of greater extent, one in Arkansas is stated to embrace a square mile. The circumvallations, moreover, seem generally to contain the mounds; and sometimes a smaller circumvallation is surrounded by a larger one. Whether these colossal structures were intended for worship or for defense, it is impossible to decide; more probably, however, they were of a military character, provided as they ordinarily were with cisterns for water. But whatever their origin, they derive interest from the analogous fact, that, within the same territorial limits, have been dug up vases of earthenware or copper in elegant forms, pipe bowls decorated with human heads of the type of the existing aborigines, or with those of birds, etc., domestic utensils, personal ornaments, hatchets of stone, and, lastly, weapons of copper or mica, or shell or obsidian. The architectural remains of C. and S. A. are at once of more modern origin and more elaborate character, and may be roughly compared with the cyclopean ruins in Italy and Greece. Uniformly in the pyramidal style—a style likely enough to be indigenous in a region of earthquakes—they are composed of blocks, generally huge, those in the walls of Tiahuanaco in Bolivia being cubes of about 16 ft. Between those of S. A. and C. A., however, there are diversities as well as resemblances. Those of S. A., situated, as they are, within the native limits of Peru, and referred, as they must be, to its closing era under the Incas, cannot reach back beyond the Spanish conquest more than 300 or 400 years; the principal ruins are those of Tiahuanaco, already mentioned; of a temple on an island in Lake Titicaca; of another edifice of the kind at Pachacamac, not far from Lima; and of the palaces and mausoleums of the royal race. Those of C. A., again, are reckoned to be considerably more ancient, reaching five or six centuries further back, and being partly the work of the Aztecs, whom the Spaniards conquered, and partly of the Toltecs, whom the Aztecs had themselves supplanted. Nor is the fact altogether without significance, that in the two more southerly divisions of the continent these mysterious records of the past are generally superior in development in proportion as they are anterior in age; those of C. A., as a whole, surpassing those of S. A.; and, again, within C. A. itself, the earlier specimens of Oaxaca, Guatemala, and Yucatan, eclipsing the later ones of Mexico proper. While attempting in the light of these remarks, to appreciate aboriginal civilization we cannot fail to be struck rather with their magnitude than with their beauty, rather with the evidence of despotism in the ruler than with traces of skill in the subject—Stonehenge affording more of a parallel than Windsor Castle or Westminster Hall. Nor does the sculpture, so often subsidiary to the architecture, lead to a more favorable inference, being generally rude and clumsy, and sometimes grotesque and hideous. The only safe conclusion is this, that, in the new world as in the old, there were different degrees of civilization; some of them confessedly higher than one could have expected in the utter absence of the useful metals, and the almost utter absence of beasts of burden. Nor has even this conclusion any necessary bearing on the better organized communities at large. Stray visitors of a higher type might have produced all the phenomena—visitors precisely such as appear to have figured in the traditions both of Mexico and Peru.

Geology.—The geology of the new world presents some remarkable contrasts to that of the districts in the old world which have supplied the types of geological classification. None of these is more striking than the enormous extent of country which one formation occupies, and that without interruption. It has long been noticed that the rock-structure of islands is more varied than that of continents; and thus it is that the inhabitants of the British isles have been to some extent compelled to become acquainted with geology. A journey of a few hours presents to the traveller rocks which, as regards both their mineral and fossil contents, are widely different. In A., on the other hand, one may travel for days over beds belonging to a single epoch. American strata often stretch from the Atlantic w. beyond the Mississippi. They have, on the whole, been subjected to few disturbing agencies; as is evidenced by the absence of any true mountain range, except the Appalachians, e. of the Rocky Mountains. The rocks of Britain, from their disposition and variety, have been, so to speak, the 'primer' and 'pocket manual' of this science, and will always continue to be the *vade mecum* of the geologist; but should he desire to peruse the large 'folios' that contain the stony records of our earth's history, in their order and natural vastness, he must betake himself to the new world.

It is not many years since attention was first directed to American geology, but during the short time that has intervened, its progress has been very remarkable. This has resulted from the appointment of a geological staff in connection with nearly every province of the United States, from the vigorous operations of the Canadian survey under Sir W. E. Logan, and from the observations of arctic explorers, whose frequent visits to these regions in search of the ill-fated Franklin have supplied data for the exposition of their natural history. Humboldt, though the first, is yet the most important of South American observers. The numerous facts recorded by him have been confirmed and added to by recent travellers. Data have been thus supplied to form an approximate estimate of the geological structure of this portion of the American continent.

The names of North American observers are almost past reckoning, yet the various systems may be said to have been chiefly laid open by four sets of observers—Morton and Marsh for the Cretaceous, Conrad for the Tertiary, Hall and the New York geologists for the Palæozoic, and the Professors Rogers for the Carboniferous strata and the Appalachians.

In the following rapid sketch of this subject, we can do nothing more than glance at the various formations, and must refer for details to the articles under the different divisions of America.

The oldest strata are a range of CRYSTALLINE ROCKS which, in N. A., occupy an area that extends from the n. shores of Lake Superior, and the banks of the St. Lawrence, n.w. to the Arctic ocean, and lies between the line of minor lakes—Slave, Winnipeg, etc.—and Hudson's bay. The average width of this area is about 200 m., and its length from Lake Superior to its termination on the shores of the Arctic sea is more than 1,000 m. The rocks are chiefly gneiss, with granite and trap. They form a flat plateau, very little elevated above the surrounding country, and only in the Copper mountains rising to the altitude of hills, the highest of which is 800 ft. above the sea-level. In this immense plain we have an example of the great characteristic of American geology—the tranquil operation of an upheaving force, exerted over a wide area, with limited and regulated intensity, and constancy of direction. This series of rocks stretches over nearly the whole of the e. portion of S. A., extending from the n. shores to the mouth of the La Plata, being, however, hidden in the valley of the Amazon by its alluvial deposits. The same rocks form the e. slopes of the Andes and Rocky mountains and the plains of Alaska. In the central district, in which we first traced them, they dip e. and w. under the Silurian strata. They are themselves free from superincumbent beds, showing that even in the Silurian age they formed dry land; and ever since, although subject, like the rest of the world, to great oscillation, it has apparently held its place with wonderful stability, for it is now, as probably then, not far above the level of the sea.

On either side of this tract there exists, as we have said, a SILURIAN district. That on the e. side, reaching to Hudson's bay, has a low and uniformly swampy aspect; the strata are hid by superficial deposits, chiefly bowlder clay or drift, large bowlders from which are scattered along the shore. The Silurian rocks under which the crystalline strata dip on their w. limits, cover a large extent of the N. A. continent. They have been traced from Canada and New England, bounding the s. limits of the azoic rocks along the line of the great lakes, and, extending in a broad band of some 200 miles parallel to the more ancient formation, probably till they reach the Arctic ocean. These rocks are only slightly developed in S. A., on the e. slopes of the Andes.

The Silurians have been divided into *Lower* and *Upper*, and each of these contains three periods. Beginning with the Lower, we have first the

Potsdam Period, comprising beds of slate and sandstone, and containing fossils representative of the three great divisions of the animal kingdom—Molluscs, Articulates, and Radiates. Next follows the

Trenton Period, a period of limestones indicating a sea of greater depth, and teeming with life, for some beds are composed entirely of shells and corals.

Another change, and rocks of a clayey and shaly structure are deposited, containing numberless zoophytes and other fossils, and forming the ***Hudson Period.***

The Upper Silurian division also comprises three epochs: *The Medina and Clinton*, composed of sandstones and shales; then *The Niagara and Onondaga*, with limestones and saline rocks; and, lastly, *The Lower Helderberg Period*, a richly fossiliferous series of limestone rocks.

The Silurian beds on their s. and w. borders dip under the Devonian rocks, which are developed to a large extent north of lat. 42° n., where they appear to rest upon the azoic rocks. They have been divided into five periods: *Oriskany*, *Upper Helderberg*, *Hamilton*, *Chemung*, and *Catskill*.

Vast beds of conglomerate overlie the Devonian rocks, and form the basis of the carboniferous strata, which formation covers large districts in New Jersey and Pennsylvania, and in the Ohio and Mississippi valleys, with an enormous thickness of limestone, shale, and other beds, which still continue parallel to the preceding formation. At the close of the carboniferous epoch the whole character of N. A. was altered by the formation of its mountain systems. No hill higher than Copper mountain seems to have existed at this time, although the land occupied much the same area, and had a similar outline as at present. The Profs. Rogers, having with perfect success unravelled the contortions of the Appalachians, have shown that the Silurian, Devonian, and Carboniferous strata, which were originally laid out in horizontal layers, were afterward pressed on to the n.w., and folded up till the folds were of mountain height. To similar causes do the Rocky mountains and the Andes owe their origin—only the directions of the forces are different.

The Appalachian forces have long been quiescent; they have, however, left traces of their former violence in the highly metamorphosed Silurian and Carboniferous rocks of New York and Pennsylvania, which were long supposed to be primary granite, etc. The agency, which at first raised the w. range, is still slightly active at intervals throughout its course.

Permian deposits exist in Nebraska, Kansas, and New Mexico, and perhaps in other sections. They occur over the great interior sea, the palæozoic representative of the gulf of Mexico. Rocks of the Triassic period are met with on the Atlantic border and the slopes of the Rocky mountains, and furnish the brown sandstone esteemed for building purposes. In this formation occur the impressions known as 'bird tracks,' but which Prof. Cope has shown to be of reptilian origin.

In the cretaceous beds which follow, evidence is given that the Mexican gulf extended far up the Missouri valley, and sufficiently deep to cover Texas and Nebraska with the beds which belong to this formation.

The tertiary formation is developed as a band of about 60 m., forming the s. extremity of N. A., and stretching from North Carolina to the peninsula of Yucatan, leaving the coast line only at the delta of the Mississippi. This formation occupies a large amount of the surface of S. A. From Patagonia to Venezuela it can be traced, occupying the space intervening between the base of the Andes and the azoic rocks of Brazil and Guiana. The older Silurian and Carboniferous deposits not found in the positions they occupy in the n. continent, the gneiss, etc., dip directly under the tertiaries. The valleys of the Amazon and the La Plata, and the mouth of the Mississippi, contain extensive alluvial deposits.

There are two post-tertiary formations in n. N. A. which are of considerable importance, viz.: the Drift deposits, and the River Terraces of Lœss, containing the remains of the mastodon and of the elephant. The bowlder clay occurs in the country n. of lat. 40° n., and in Patagonia in S. A. Its characteristics are the same as that in the old world—a stiff clay, containing bowlders of all sizes, some being as much as 1,000 or 2,000 tons' weight. The origin of this remarkable deposit is ascribed to the former existence of vast glaciers over the n. and s. parts of A. down to the line of bowlder clay.

The pampas of S. A. are covered with a deposit of clay and sand, containing the bones of the megatherium and mylodon, generally allied to the sloths, and of the glyptodon, a huge armadillo. For details see ANDES, APPALACHIANS, ROCKY MOUNTAINS. The great continent, known to us as the new world, but geologically being the very oldest world, began as a series of groups of large islands, e. Canada, New England, Guiana, Brazil, and several spots in the Cordilleras and the present West Indies being their sites. Then there was gradual upheaval and junction of islands, great gains being made during the Silurian and still greater during the Devonian and before the end of the Carboniferous ages. The carboniferous strata of A. were never much richer than they are now. They have been plowed up, denuded, and also metamorphosed by heat. The Rocky mountains are much more modern geologically than the Appalachians, these becoming here great lava beds, and recent and ever active volcanoes.

Botany.—On the discovery of A., Europeans regarded with astonishment its vegetable and animal productions, so different from all that they had ever seen before. The difference between the productions of the old and new worlds is least remarkable in the most n. regions. Around the north pole, a region having a flora and fauna which may properly be designated arctic, includes portions of the three continents of Europe, Asia and A., and many productions are common to these three continents throughout this region, while those which are peculiar to one, are generally represented in the others by species nearly allied. In A. this region extends to the n. shores of Lake Superior. The polar bear haunts the arctic regions of the old and new worlds alike; and farther s., in both, the beaver builds his dam, and is pursued for his skin. Pine and birch are the chief trees of all the most n. forests, and struggle on, dwarfed and stunted, toward the regions of perpetual snow; while the berries of different species of *Rubus* and *Vaccinium* (bilberry, etc.) are the last fruits which the soil offers to man during the brief summer of the north, alike to the Laplander and the Esquimaux.

More to the s. the flora and fauna of A. becomes more decidedly different from those of the old world; yet the difference consists not so much in the appearance of new families as in new species, replacing, so to speak, those of Europe and of Asia. The forests consist chiefly, as in these continents, of pines, oaks, birches, and willows; but the pines, and oaks, and birches, and willows, are not the same as those which cover the plains and mountains e. of the Atlantic. The same remark applies to poplars, elms, planes, maples, hazels, and other kinds of trees, and to plants of humbler growth, as roses, brambles, strawberries, bilberries, etc., the pasture grasses and the common flowers and weeds, although umbelliferous and cruciferous plants are comparatively rare. Not unfrequently, also, forms occur more completely different from those of the other quarters of the world; and these become more numerous as we proceed s.; although the magnolias, which form so remarkable a feature of the flora of the s. Alleghanies and other s. parts of N. A., have recently been found equally to characterize that of the e. of Asia and of the Himalaya mountains, where magnificent species of rhododendron have also been discovered, rivaling or exceeding those which are natives of the United States, and very different from the dwarf shrubs which represent the same genus on the mountains of Europe. It is remarkable that no true species of heath is found in A., although many shrubs of the same family occur; but none of them so strongly exhibiting the social character, or covering great tracts as do the heaths of n. Europe. Where the climate begins to assume a tropical character, however, A. is distinguished by the abundance of the Cacti, the prickly pear and its allies, which are found on its plains, often forming the greater part of their vegetation. The species of this order, so far as is yet known, are exclusively American, although some of them have been introduced into the warmer parts of the old world, and are now very common in the s. of Europe and elsewhere. The mountains of Mexico are, to a large extent, clothed with oaks and pines, most of them, however, different not only from those of the e. continents, but even from those of the more n. parts of A. The flora of tropical A. resembles that of Asia and Africa in its palms, although these also are with few exceptions different in species; and the species are more abundant than in any other part of the world. It appears, indeed, that palm forests like those of S. A. scarcely exist elsewhere. The forests of the hottest parts of S. A. produce also many remarkable trees of other kinds, among which may be mentioned the trees of the order *Lecythidaceæ* (q.v.), one of them known as the cannon-ball tree, and all of them producing huge fruits, with thick, hard shells, which are often used for domestic purposes; while within the shell of a particular species are packed together the well-known Brazil nuts (q.v.) of our stores. In the waters of the same region has been discovered the *Victoria Regia*, the most magnificent of water-lilies, and for the growth of which hot-houses containing ponds of water have been erected in our own country. The forests of this part of A. are so dense and full of underwood, and the trees so bound together by lianas or twining plants, that they are in many places impenetrable, and the animals which inhabit them either find their way among the branches, or by narrow paths, which they keep open by constant use. The treeless plains of S. A., like those of N. A., have, in general, much of a grassy vegetation. Part of the elevated regions of the Cordillera, within the torrid zone, is remarkably characterized by the presence of *Cinchonæ*, which form its principal botanical feature, and yield the celebrated Peruvian bark. In still more elevated regions, *Escalloniæ* and *Calceolariæ* give a novel aspect to a vegetation otherwise very similar to that of Europe in its general character, and containing saxifrages, gentians, and many other plants of genera common in the old world. The flora of Chili presents also some interesting points of resemblance to that of New Holland and New Zealand. An *Araucaria*, now not unfrequent in our pleasure grounds, appears as a representative of the pines, and its seeds afford a large part of the food of the natives of the district in which it abounds. Toward the strait of Magellan vegetation again assumes forms more similar to those of Europe. The forests consist in great part of peculiar species of beech. Barberries, different from those of other parts of the world, but very nearly resembling them, are particularly abundant; and with them occur brambles, saxifrages, gentians, primroses, etc. There are also vegetable productions very different and peculiar, as the Winter's bark, which has obtained some reputation as a medicine. From this region are derived not a few of the fuchsias now so familiar an ornament of gardens, green houses, and cottage windows in Britain, and **which are exclusively American.**

Maize is one of the most important of the botanical productions of A. It is the only cultivated grain of American origin; it was in cultivation before the discovery of A. by Europeans, by whom, however, its value was soon recognized, and it has now become an important crop in climates suitable for it in all quarters of the world. The other grains have all been introduced into A. by Europeans, with the sugar-cane, the banana and plantain, coffee, cotton, flax, and many other plants now generally cultivated both in the tropical and temperate regions. The yam is regarded as among its native productions, common to its tropical regions with those of other quarters of the world. Tobacco is a native production of A., the cultivation and use of which extended from it to the old world, and rapidly became prevalent among a great part of mankind. It is, indeed, supposed by some that there is a species of tobacco indigenous to the farthest e.; but this, and the question of its use there before it was made known from A., are still involved in uncertainty. But of all the vegetable productions of A., the potato is the most important and useful. We owe to it also the Jerusalem artichoke; and it produces several other plants, valuable for their roots and tubers, as the arracacha, the melloco, etc., the use of which has scarcely yet extended beyond their native regions. With them may be mentioned the quinoa, which is not a grain, the seed of a grass, but the seed of a species of *chenopodium*, or goose-foot, resembling the seeds of the cereal grasses in its qualities, and extensively cultivated on the high table-lands of Chili and Peru. Tapioca, arrow-root, cocoa, vanilla, pimenta, or Jamaica pepper, and Cayenne pepper, are among the native productions of the tropical parts of A. The agave (q.v.), or American aloe, valuable both for its fibre and its juice, has now become common in the warm parts of Europe, and in similar climates in other quarters of the globe. The pine-apple is a native of tropical A., although now naturalized, or nearly so, in other tropical regions. Tropical A. and the West Indies produce also many other fine fruits, among which are the guava, different species of anona or custard apple, and of granadilla or passion flower. The forests of N. A. yield much valuable timber, chiefly consisting of different kinds of oak and pine. The black walnut and hickory of the United States are also much esteemed. The West Indies and neighboring parts of the mainland yield mahogany; and from the same regions comes logwood, one of the most useful of dyewoods. The tropical forests of S. A. produce many valuable timber trees, of which perhaps the most deserving of notice are the greenheart (q.v.) or Bibiri, and the Mora. Brazil-wood and Pernambuco wood are among their dyewoods. One of the most remarkable productions of this region is the cow-tree (q.v.), the juice of which possesses many properties in common with milk, and is used instead of it. The milky juice of some other trees of tropical A. thickens into caoutchouc. Different parts of S. A. produce *Maté* (q.v.) or Paraguay tea, a species of holly, the leaves of which possess properties similar to those of tea and coffee, and afford a beverage which is extensively used, although not yet an article of export to other parts of the world; and the coca (q.v.), a shrub of which the leaf has been, from a remote period, employed by the Indians as a narcotic.

Zoology. In the animal kingdom, as in the vegetable, all seemed strange and new to Europeans when they first set foot in A. Yet here also the difference from the productions of Europe is not so great as in s. Africa or Australasia. In N. A. many of the animals, as of the plants, of Europe are represented by others of the same genera or families. A few are common to the old and the new world; and in some which are now regarded as specifically different, the difference is not so great as readily to attract the notice of unscientific observers. N. A. has its elk and its deer, its oxen (the bison, called buffalo in the United States and the musk ox), its sheep (the Rocky mountain sheep), its beavers, hares, squirrels (some of them much sought after for their fur), mice, rats, weasels, bats, porcupines, bears, badgers, foxes, wolves, and several species of feline animals, among which are the puma and the lynx. The jaguar, more powerful and dangerous than any other of the feline animals of the new world, and the only very formidable beast of prey which it produces, inhabits the tropical forests of S. A. The warm parts of S. A. produce the great tapir, peccaries, sloths, ant-eaters, armadilloes, etc.; but the elephant, rhinoceros, hippopotamus, and boar of the old world have no more nearly allied representatives. The lama and its congeners, among which is the alpaca, are peculiar to S. A., inhabiting the Andes of Chili and Peru. Of the animals of the old world, the most nearly allied to them is the camel, which is entirely wanting in the new, as was also the horse (with all its congeners), until it was introduced by Europeans, a sight of wonder and of terror to the Mexicans and Peruvians who first found themselves opposed to Spanish cavalry, but now thoroughly naturalized and roaming in vast multitudes on the South American plains. The dog existed in A. before the days of Columbus; it existed in different varieties as a domesticated animal, and the same difficulty arises concerning the origin of the domesticated varieties as when those of the old world alone are considered. The chinchilla, so valuable for its fur, is a small quadruped, peculiar to the n. of Chili. The opossums of N. A. were the first known of marsupial quadrupeds—i.e., those which have a pouch for their young—and are described as objects of great curiosity by the earlier writers on the new world and its productions. Monkeys are numerous in the warm parts of the new world as well as of the old, and of many species; but they are not only of different species from those of Asia and Africa, they form a different section of the monkey family. There are no apes resembling the orang-outang or chimpanzee, and no baboons; but all of the American monkeys have long tails, and many of them prehensile tails, the latter peculiarity being found in none of those of the old world. The absence of cheek pouches is another characteristic of the American monkeys.

Among the birds of A. are eagles and others of the same family, vultures (among which is the great condor of the Andes), owls, ravens, crows, herons, thrushes of many kinds (of which the mocking-bird may be mentioned as a species particularly interesting), finches, sparrows, buntings, warblers, wrens, larks, etc. Few, however, are identical in species with those of Europe or of Asia. Few things in the natural history of N. A. are more remarkable than its multitudinous flocks of pigeons. There are numerous species of grouse and partridge. Of the large gallinaceous birds, the first place in importance must be assigned to the turkey, now so common in a domesticated state in Europe, although in a wild state it has almost disappeared from great part of its native regions. Alectors and curassows are large gallinaceous birds of Mexico, Guiana, and other warm parts of A. Parrots abound in the tropical forests, and although only one species extends northward into the United States, yet in S. A., birds of this family range to the s. extremity of the continent. Humming birds are peculiar to A., and are found not only in its tropical but in its temperate regions, of numerous species, and many of them of dazzling beauty, passing like bees from flower to flower, and often constituting a characteristic feature of the scenes in which they abound. Toucans and aracaris are among the other kinds of birds peculiar to A., and are found in S. A. alone. Swans, geese, and ducks, with other waterfowl of many kinds, exist in great numbers in N. A., and in the warmer parts the brilliant colors of the flamingo enliven some of the coasts.

Serpents are numerous. Among them are boas, remarkable for their great size. Rattlesnakes, among the most venomous and dreaded of the serpent tribe, are peculiar to A. Alligators abound in the rivers of the tropical and sub-tropical regions. Turtles are caught in great numbers in the West Indian seas, and fresh water turtles abound in some of the tropical rivers. The bull-frog is a native of the United States, remarkable for the loud noise which it makes, and which those who have been accustomed to it from their childhood learn to associate with all that is pleasant in nature. The lakes and rivers of A. abound in fish, of which many are of the salmon family, the common salmon itself being found as far s. as 41° n. lat., and some are of the sturgeon family. The cod fisheries of the bank of Newfoundland and of the coasts of Nova Scotia are unequalled in productiveness; and herrings and other species of the herring family are taken in great numbers in the same seas.

Some parts of A. are grievously infested by mosquitoes and other insect tribes, the vast numbers of which are extremely annoying, so that some places on the banks of tropical rivers are rendered almost uninhabitable. Ants and termites, or white ants, are very abundant in some parts of S. A. Many species of wild bees are found in the forests of Brazil, some of them very productive of honey; but the common hive bee was unknown in A. till it was introduced from Europe. It has now become naturalized, and found in the forests far beyond the settlements of white men. The cochineal insect of the opuntia is a native of Mexico and C. A., and the plant on which it feeds has long been cultivated there and in the West Indies for its sake.

Political Divisions.—The following are the political divisions of A., the chief of which will be found described in their proper places. In N. A., including the so-called C. American republics, are British A., as commonly understood, the United States, Mexico, Guatemala, San Salvador, Honduras, Nicaragua, and Costa Rica; and, lastly, a small portion of the U. S. of Colombia; in S. A. are the rest of the U. S. of Colombia; thence along the Pacific are Ecuador, Peru, Chili, and aboriginal Araucania; while round by Patagonia and Tierra del Fuego the Atlantic washes the Argentine confederation, Uruguay, Brazil, Guiana, and Venezuela, the interior being occupied by Bolivia and Paraguay. Finally, the West Indies consist of the Bahama islands, the Greater Antilles, and the Lesser Antilles.

The following tables give the states of A., with their areas and population, according to the most recently published returns (1889-90).

NORTH AMERICA.

Governments.	Area in Sq. M.	Population.	Capitals.
Greenland Danish........	46,740	9,780	Godhavn,
St. Pierre and Miquelon Fr..........	90	5,983	St. Pierre.
Canada, Dominion of, (British) including Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward's Island, Manitoba, British Columbia, Keewatin, Saskatchewan, and N. W. Territories.........	3,470,257	5,000,000	Ottawa.

AMERICA.—19.

NORTH AMERICA.

Governments.	Area in Sq. M.	Population.	Capitals.
Newfoundland (British)..	40,200	186,536	St. John's.
Labrador (British).......	470,000	7,000	
Bermuda Islands (British)......	20	15,743	Hamilton.
U. S. OF AMERICA........	3,500,242	65,000,000	Washington.
Mexico..................	741,313	11,632,924	Mexico.
San Salvador.............	7,225	651,130	San Salvador
Nicaragua................	49,500	400,000	Managua.
Honduras.................	46,400	431,917	Comayagua.
Guatemala................	46,800	1,460,017	Guatemala.
Costa Rica...............	20,000	263,780	San José.
Total................	8,439,387	85,004,810	

WEST INDIES.

Governments.	Area in Sq. M.	Popula'n.	Capitals.
Hayti....................	10,204	960,000	Port au Prince.
San Domingo..............	18,045	610,000	St Domingo.
Cuba (Spanish)...........	43,220	1,521,684	Havana.
Porto Rico (Spanish).....	3,550	810,394	San Juan de Puerto Rico.
Jamaica (British)........	4,424	633,887	Kingston
Trinidad "	1,754	196,172	Port of Spain.
Barbadoes "	166	180,000	Bridgetown.
Grenada "	120	50,393	St. George.
St. Vincent "	122	47,640	Kingston.
Tobago "	114	20,626	Scarborough.
St. Lucia "	245	45,000	Castries.
Antigua "	108	34,344	St John
Montserrat "	32	10,083	Plymouth.
St. Christopher (British).	65	45,000	Basse Terre.
Anguilla "	35	11,080	
Nevis "	50	13,735	Charlestown.
Virgin islands "	58	5,000	
Dominica "	291	28,211	Roadtown.
Bahamas and Turk's Island................	5,600	53,000	Roseau.
Guadeloupe (French).....	360	149,771	Nassau
Martinique "	380	175,391	Basse Terre.
St Bartholomew (French)	35	2,374	Ft. de France.
St. Martin (French and Dutch).............	30	6,466	La Capesterre.
Curaçoa (Dutch).........	403	46,461	Willemsted
Santa Cruz (Danish).....	74	18,430	Christiansted.
St. Thomas "	23	14,389	Char. Amalie.
St. John "	21	944	Crux Bay.
Totals................	89,529	5,628,375	

SOUTH AMERICA.

Governments.	Area in Sq. M.	Popula'n.	Capitals
Venezuela................	632,695	[illegible]	Caracas.
U. S. of Colombia........	504,773	[illegible]	Bogota.
Ecuador..................	[illegible]	[illegible]	Quito.
Peru.....................	[illegible]	[illegible]	Lima
Bolivia..................	[illegible]	[illegible]	[illegible]
Argentine Republic.......	[illegible]	[illegible]	Buenos Ayres.
Uruguay..................	[illegible]	[illegible]	Montevideo.
Paraguay.................	[illegible]	[illegible]	Asuncion
Chili....................	[illegible]	[illegible]	Santiago.
Brazil...................	[illegible]	[illegible]	Rio Janeiro.
Patagonia (Chili and Argentine)................	200,000	25,000	
Guiana— British.................	[illegible]	[illegible]	Georgetown.

SOUTH AMERICA.

Governments.	Area in Sq. M.	Popula'n.	Capitals.
Dutch....................	46,060	57,365	Paramaribo.
French....................	46,850	25,796	Cayenne.
Falkland Island (British).	6,500	1,890	Stanley.
Total.................	**7,805,823**	**35,453,665**	
Grand total for both Americas...........	**16,334,739**	**130,086,850**	

We are unwilling to close this article without giving some statistics calculated to impress on the reader's mind the chief physical features of this vast continent. We will group them under the heads of heights of mountains, active and extinct volcanoes, lengths of rivers, dimensions and areas of lakes.

The highest mountain in N. A. is Mt. St. Elias, in Alaska, 19,500 ft.; Mt. St. Helena, in the Cascade range, is 15,750 ft.; Mt. Tacoma, 14,444 ft.; Mt. Hood, 11,934 ft.; in the Sierra Nevada, Mts. Whitney, Shasta, King, and Tyndall are each over 14,000 feet.

In the n.w. British territories are Mt. Brown, 16,000 ft., and Mt. Hooker, 15,700 ft., the sources of the great group of rivers, the Mackenzie, Frazer, Saskatchewan, and Columbia. In Colorado are the following mountains exceeding in height 14,000 ft., Wilson, Lincoln, Evans, and Howard.

On the eastern side the highest summit is Mt. Mitchell, in the Alleghanies, 6,688 ft.; Mt. Washington, in New Hampshire, reaching 6,293 feet.

Mexico has two peaks, Popocatepetl and Orizaba (18,206) each exceeding 17,000 feet.

Peru's culminating point is the volcano of Misti, in Arequipa, 20,300 ft., and its next highest peaks are Pichu, Charcani, 18,000 ft., and Pan d'Azúcar, 17,000 feet.

Bolivia boasts of the following giants: Sahama, 22,350 ft.; Parinacota, 22,030 ft., and Illimani, 21,145 feet.

Chili is rich in great mountain peaks: Aconcagua, 22,867; ft.; Cerro del Mercedario, 22,305 ft.; Cerro de la Ramada, 20,824 ft.; Joncal, 20,368 ft.; Maypu, 17,664 ft.; San Francisco, 16,998 ft.

The most remarkable volcanoes are:

CHILI—Llullaillaco, 21,000 ft.; Villa Rica, San José, Peteroa, Llayna, Antuco, Hacalhué, Chillan, Calbuco, Corcovado, Osomo, Yantéles.

PERU—Misti, Pichu, Charcani, Pan d'Azúcar.

BOLIVIA—Illimani and Parinacota.

GUATEMALA—Amilpas, 13,200 feet.

SAN SALVADOR—Isalco, 4,060 feet.

NICARAGUA—Viejo, 6,266 ft.; Momotombo, 7,200 ft.; Coseguina, 3,835 feet.

MEXICO—Popocatepetl, 17,540 ft.; Orizaba, 17,176 ft.; Toluca, 16,610 ft.; Iztaccihuatl, 15,705 ft.; Colima, 12,000 ft.; Zapotlan, 9,293 ft.; Tuxtla, 9,708 ft.; Tancitaro, 9,596 ft.; Soconusco, 7,436 ft.; Guarda, 10,748 feet.

NORTH AMERICA—San Francisco, Yellowstone Geysers, Mt. Hood, Mt. St. Elias.

The great rivers of America are the—

	Length, miles.
Saskatchewan-Nelson....................................	1,450
Mackenzie....................................	1,600
Frazer....................................	800
Columbia....................................	1,090
Red River of the N....................................	500
St. Lawrence....................................	1,930
Mississippi-Missouri....................................	2,250
Hudson....................................	280
Potomac....................................	400
Rio Grande....................................	1,250
Amazon....................................	3,750
Madeira....................................	2,000
Magdalena....................................	900
Paraná....................................	2,000

	Length, m.
Pilcomayo	1,000
Purus	2,000
San Francisco	1,550
Tocantins	1,000
Uruguay	800
Xingu	1,300

The more important lakes and their area in sq. m. are:

Great Bear	14,000
Great Slave	15,000
Athabasca	3,000
Winnipeg	7,000
Superior	32,100
Huron	20,400
Michigan	22,000
Erie	9,600
Ontario	7,650
Champlain	488
Great Salt Lake	2,200
Lake of the Woods	612
Tulare	650
Nicaragua	4,500
Maracaibo	4,900
Titicaca	4,000

AMERICA, BRITISH. From the small beginnings specified in the general article above, B. A., in the proper sense of the words, is now, in mere extent, at least equal to the American republic, and vastly superior to any other state in the w. hemisphere; occupying, as it does, a breadth of about 90° of long., and stretching, with more or less interruption, over a length of 120°. Besides touching, actually or virtually, every considerable power of the continent, England, in the new world as in the old, commands nearly every turning point in navigation and commerce. By way of Ireland, Newfoundland has linked together the two continents by a submarine telegraph. Again, with the gulf and river of St Lawrence as its main artery, B. A., in its ordinary acceptation, comprising Nova Scotia, New Brunswick, Prince Edward's Island, and the Canadas, has received from nature an advantage in respect of the w. trade, which even the energy of Pennsylvania and New York cannot counterbalance; Halifax, the Bermudas, and the Bahamas, are so many guardians of the gulf-stream, freighted, as it is, with the exports of half a continent. Jamaica forms the first link of a chain which girds the Caribbean Sea. Trinidad fronts the Orinoco, which is connected by the Cassiquiare with the Amazon. W. Guiana, also, as already mentioned under another head, finds, up the Essequibo, its own communication with the 'King of Waters;' and lastly, at least on the Atlantic side, the Falklands, with their Port Egmont, flank alike the river Plate and the strait of Magellan. Round again in the Pacific, B. A. exerts an influence which, if absolutely less, is perhaps relatively greater. At the upper extremity of a coast, which, in spite of some splendid exceptions, is, as a whole, singularly deficient in harbors, British Columbia, with its breastwork of islands from Vancouver's upward, and its succession of indentations or arms of the sea, bids fair, more especially with its vast supplies of timber, to become a congenial base of operations for sustaining the maritime greatness of Britain.

AMERICA, SPANISH. Spanish America shrunk, as it is, into Porto Rico and Cuba, now belongs rather to history than to geography. For many years it embraced absolutely the entire continent, having, in 1580, absorbed Brazil, as Spain itself absorbed Portugal, at a date prior to the appearance of any other European settlement. But, boundless as it was, it contained from the beginning the seeds of its ultimate and premature decay. The colonists, as hunters after the precious metals, disdained that steady industry which, to their English competitors, was a necessary of life; while the mother country, by rigorously excluding even her own actual natives from public employments, had taken care to prepare its dependencies for the rational use of that independence which was sure at last to come. At the same time those very circumstances did tend to prolong the subjection of Sp. A., for the colonists found their first motive for rebellion in their fidelity to their sovereign, throwing off the yoke of Spain [illegible] of Napoleon's seizure of Ferdinand VII. Similarly, Brazil, as the chosen shelter of its sovereign from French domination, remained faithful to the house of Braganza.

ANAM, *â-năm':* a territory along the east coast of Indo-China, between 10° and 23° n. lat., forming an empire which since 1885, has been under a French protectorate. The names A. and Cochin-China are sometimes used as interchangeable; sometimes the whole region is A., with Tongking (Tonquin) and Cochin-China as subdivisions, and, conversely, sometimes Cochin-China has Tongking and A. for its northern and southern sections. Cochin-China was the name originally given by the early navigators to the whole coast from Siam to China. A., a name given by the Chinese in the 3d century, A. D., was adopted by the Anamese as the official name for the whole country. Including Tongking—till recently a feudatory state—A. is bounded on the north by the Chinese provinces of Kwang-tung, Kwang-si, and Yunnan. On the west, the precise frontier of A. is still undetermined, but may be taken generally as formed, in the northern section, by the mountain-range skirting the left bank of the Mehkong, but farther south, extending beyond that coast range to about 105° e. long. On the s. A. is bounded by Lower Cochin-China; on the e., it is washed by the China Sea. The area of A. is estimated at about 106,000 sq. m., and its population at about 21 millions. It consists of three main parts: the northern part, Tongking, or Tonquin (i.e. 'Eastern land'), occupying from 60,000 to 70,000 sq. m., with a population of about 12 millions; Dang-kong ('interior land'), or Anam Proper, south of Tongking; in the extreme s.e., Champa, or Tsiampa. In addition to these sections, A. includes the domain of the Moi, or hill-tribes (called by the Siamese, Kha), differing from one another in type, speech, and usages, situated to the west of the Dang-kong; as also the territory of the Laos, subject to A., lying north of Cambodia and the Mehkong. French, or Lower Cochin-China, to the south of A., consisting of six provinces, was in 1863 detached from A., and is now under the administration of the French Marine Department. Cambodia, occupying the lower course of the Mehkong, to the s.w. of A., was, till recently, under the vassalage of Siam; but since the French occupation of Lower Cochin-China, Cambodia too has detached itself from Siam, and declared allegiance to the French.

Tongking, placed by the treaty of Hué (1884) along with A. Proper under the protection of France, is distributed into three distinct natural divisions: (1) the delta land in the s.e.; (2) the region of plateaus in the north; and (3) the forest region in the west. The Song-coi, or Red river (called Thao by the Anamese, and Hong-kiang by the Chinese), flows across the whole of Tongking from n.w. to s.e. The delta-lands formed at its mouth may be defined as a rough insular triangle, the apex of which is Sontay, and its two sides, Song-dai on the south, and Son-can on the north, both issuing into the sea. Not far below Sontay the Song-coi opens out at intervals into four leading branches, of which one is navigable for large ships. These main water-ways are connected by a network of subsidiary channels—many natural, some in part artificial. The delta-lands are all crossed by great embankments or dikes, hundreds of miles in extent, often 60 to 70 feet wide at the base, 20 to 30 feet high, and broad enough at the top for three carriages to drive abreast. The delta-lands are extremely fertile, yielding two harvests a year. This fertility is due to the red soil which is transported by the Song-coi (Red river), and which is rapidly enlarging the delta. Hanoi, a seaport when built by the Chinese in the 8th century, is now 100 miles inland. Now, too, there are populous agricultural villages where twenty years ago fishermen were casting their nets. The staple product is rice; but there are also grown peanuts, castor-oil, mulberry for silkworms, cotton, sugar-cane, spices, sweet potatoes, etc. The north of A. is rich in minerals of all kinds, and there have been opened gold, silver, copper, tin, and salt mines, while extensive coal-fields have hardly yet been touched. The mountains are covered with all kinds of useful woods.

Though A. lies wholly in the torrid zone, yet the climate of Tongking is on the whole excellent. During the dry season, from September to April, the thermometer varies between 70° and 40° F. During the hot and rainy season, extending over the other six months, the thermometer seldom mounts from a minimum of 70° to beyond 100° F. On account of the moisture, however, the heats in June and July are sometimes almost intolerable.

In the mountains of A. tigers, buffaloes, rhinoceroses, and elephants abound. Much fishing is carried on.

ANAM.—2

Inhabitants.—The Anamese are mainly of Mongoloid stock. The inhabitants of the mountains (Muong or wild peoples) are taller, fairer, and stronger than the inhabitants of the plain. The latter are small of stature, but well proportioned, indolent, but expert. Rice is their principal food; but, like the Chinese, they are omnivorous, and devour snakes, locusts, rats, and dogs. The Tongkingese display wonderful skill in building dikes. Yet at Haiphong, the Chinese have monopolized all the industries demanding skill and perseverance; and 'lazy as an Anamese' is a common proverb. The only good industries carried on in A. are in lacquer and the finer metals. The manufacture of steel is unknown. Sericulture and silk-weaving are far behind the state attained by those arts in China. The dikes offer the most available roads, and the only two great highways are the route from Saigon through Hué to Hanoi, and by way of Bac-ninh and Lang-son to China; and the northern road from Hanoi to Son-tay and Hung-hoa. The speech of the Anamese is monosyllabic, like Chinese, from which they have borrowed many words. The Anamese written character was also derived at an early period from the Chinese alphabet. There is no Anamese literature distinct from the Chinese. The mass of the people worship tutelary spirits; Confucianism is in vogue with the more cultivated; the remainder adhere to Buddhism. There are besides about 420,000 Roman Catholics, descendants of emigrants from Macao and Japan (1624), and of Portuguese fugitives from Malacca.

Government. The frame of government is of Chinese pattern, but in its operation is much harsher and ruder than its prototype. The emperor is absolute despot, and unless the actual monarch should have decreed otherwise, the succession passes to the eldest son. He is assisted by a council of six ministers and three 'kun,' one of whom is prime minister. The bastinado is in full force, and mutilation and torture are regular instruments of arbitrary authority. Military service is obligatory on all men between the ages of 18 and 60; and they are so often called out that the field-work is left principally to women. The capital of the empire is Hué.

History. Tongking and Cochin-China were, 214 B.C., conquered by China, and occupied by Chinese colonists. In 939 A.D., Tongking freed itself from the yoke of China, and in 1403 a war commenced, which in 1428 ended with Anam's independence of China, although the latter still maintained a nominal suzerainty. In 1517 the Portuguese came into the country, followed by the Dutch, who established a trading settlement in Hanoi. In 1789, by the aid of the French, the emperor of A. united Tongking and Cochin-China under his rule. In 1858 a Franco-Spanish squadron stormed Touron, and next year Saigon likewise surrendered. In 1861 the whole province of Saigon submitted to France. Other provinces soon fell, and by the treaty of Saigon or Hué (1862), French Cochin-China was established, and afterward enlarged. In 1870 Dupuis made a voyage up the Song-coi as far as Yunnan; and in 1873, with 100 French soldiers, captured Hanoi. By commercial treaty (1874) with A., France secured the right of holding the delta lands of Song-coi, and freeing them from pirates. Accordingly, in 1882, Major Rivière made himself master of Hanoi, and, notwithstanding the protests of China, A., by treaty 1884, Aug. 25, acknowledged the suzerainty of France, and her right to regulate the relations of A. with foreign powers, China included. After some conflicts with France, China, also, by the treaty of Tien-Tsin, 1885, June 9, engaged to respect the new state of affairs introduced by France into A., and to sanction commercial relations between China and Tongking. Thus practically the whole of A., including Tongking and Cochin-China, has been made a dependency of France.

See recent works on Anam and French Cochin-China by Bouillevaux, De Rhins, Lemire, Launay; and works on the French colonies by Vignon, Rambaud, and De Lanessan (1886).

ARABIA, *ă-rā'bĭ-a;* called by the inhabitants, Jezirat-al-Arab (the peninsula of A.); by the Turks and Persians, Arabistán—is the great south-western peninsula of Asia, and is situated 12° 40′–34° n. lat., and 32° 30′–60° e. long. Its greatest length from n.w. to s.e. is about 1800 miles; its mean breadth, about 600; its area, 1,230,000 sq. m.; and its population conjectured to be not much above 5,000,000. It is bounded on the n. by the highlands of Syria, and the plains of Mesopotamia (or by a line from El Arish on the Mediterranean to the Euphrates delta); on the e., by the Persian Gulf and the Gulf of Oman; on the s., by the Arabian Sea; and on the w., by the Red Sea and the Suez Canal. Midway between Mecca and Medina runs the tropic of Cancer. Ptolemy is supposed to be the author of the famous threefold division into Arabia Petræa (i.e. the Arabia of the city of Petra, in the n.w.); Arabia Felix (an incorrect translation of Yemen, which does not signify 'happy,' but the land lying to the right (i.e. to the south) of Mecca, Orientals regarding as the cardinal point not the north but the east), along the w. and s.w. coasts; and Arabia Deserta, in the interior. The more precise divisions are: the Sinaitic Peninsula (see SINAI), between the Gulfs of Suez and Akaba; the Hedjáz (the Barrier), the larger and northern strip to the east of the Red Sea; Yemen, the southern and smaller strip to the east of the Red Sea; Hadramaut, the region along the southern coast; Omán, the extreme south-eastern end of the peninsula, as large as England and Wales; El Hasa, along the Persian Gulf; Nejd, the Central 'Highlands' of Arabia.

In shape, A. is an irregular parallelogram, broadest at the southern end; in character, it is mainly African. The vast central plateau rises from a height of 2500 feet in the north to 7000 feet in the s.w., and is bounded by western and southern mountain chains, the former attaining, to the south of Mecca, a height of 8500 feet. Between the mountains and the sea is a low hot strip of land, partially fertile, of varying width. There is a desert in the north of the interior, the mountainous country of Nejd near the very centre, and to the south of Nejd another very sterile sandy desert. Hedjáz and Yemen extend from the Red Sea indefinitely toward the interior, and consist partly of the Tehâma, or low country, along the sea, and partly of the mountain district beyond. Mecca and Medina, with their seaports Jiddah and Yembo, are in Hedjáz. Yemen is on the whole well watered, has rich and fertile valleys, and contains one-fifth of the whole population of A. Yemen possesses two very important commercial towns, Mocha and Loheia, situated on the coast of the Red Sea. Hadramaut is little known, but resembles the Hedjaz in character. Oman is mainly mountainous, is partly very fertile, and possesses the good harbor of Muscat. It has considerable trade, and some manufactures of cotton, silk, and arms. Hasa is comparatively level and fertile. Large portions of A. are perfectly arid; nowhere does a river reach the sea all the year round; but the more fertile portions are so extensive as to constitute two-thirds of the total area: one-third of the whole may be accounted desert and uninhabitable.

Our knowledge of the interior of A. is still very imperfect in detail. The largest portion of it lies in that great desert zone which stretches from the shores of the Atlantic to those of the Northern Pacific. Nejd, the northern highland or central plateau of A., is a compact, settled district, culminating in the crescent-shaped Jebel Toweyk, which is intersected by numerous valleys, roaring torrents during the rains, but dry depressions at other times. North of Nejd and separated from it by a narrow arm of Nefud, or the northern desert of A., is the smaller plateau of Jebel Shommer, crossed by the ranges of Jebel Aja and Jebel Selma. The northern desert, partly stony, and partly a billowing expanse of red sand, is thinly sprinkled over with oases of wells and grass, serving as halting places for the caravans of merchants or pilgrims. The oasis of Jauf, 60 miles long by 10 miles broad, contains 40,000 settled inhabitants. Dahna, the southern and much desert of A., extends from Nejd to the Hadramaut coast range, and has never been explored by any European. It is, however, an almost absolutely sterile sand waste. See MUSCAT; ZANZIBAR.

Politically, Hedjaz, Yemen, and El Hasa are really three Turkish provinces; the Sinaitic Peninsula is in Egyptian hands; England exercises much influence in Hadramaut through her possession of Aden; the Sultan of Oman is independent, and in alliance with England; Nejd, the seat of the once powerful Wahabi State (see

WAHÂBIS), is independent. The Emir of Shomer, or Shammar, pays a small annual tribute to the Sherif of Mecca, in recognition of Turkish supremacy.

A. has, on the whole, an African climate. Though it is surrounded on three sides by the sea, its mountain chains exclude in a great measure the modifying influence of currents of air from the ocean. In several parts of A. hardly a refreshing shower falls in the course of the year, and vegetation is almost unknown: in other sultry districts, the date-palm is almost the only proof of vegetable life. Over large sterile tracts hangs a sky of almost unbroken serenity. The short rainy season, which occurs on the west coast during our summer months, fills periodically the *wádys* (hollow places) with water, while slight frosts mark the winters in the centre and north-east. During the hot season, the Simoon (q.v.) blows, but only in the northern part of the land. The terraced districts are more favorable to culture, and produce wheat, barley, millet, palms, tobacco, indigo, cotton, sugar, tamarinds, excellent coffee, senna, and many aromatic and spice plants, as balsam, aloe, myrrh, frankincense, etc. A. is destitute of forests, but has vast stretches of desert grass fragrant with aromatic herbs, and furnishing admirable pasturage for the splendid breed of horses. Coffee, one of the most important exports, is an indigenous product both of A. and Africa.

In the animal kingdom, an African character prevails generally. Sheep, goats, oxen, camels, and horses are abundant among the settled inhabitants; the wandering tribes have no oxen. Gazelles and ostriches frequent the oases of the deserts, where the lion, panther, hyena, and jackal hunt their prey. Monkeys, pheasants, and doves are found in the fertile districts, and flights of locusts often make sad devastation. Fish and turtle abound on the coast. The noble breed of Arabian horses has been cultivated for several thousand years. The best are reared in Nejd; they never reach the European market. But the most characteristic of all animals in the peninsula is the camel, which has been both poetically and justly styled 'the ship of the desert.' It may be regarded as an Arabian animal, for it seems to be proved that it is not a native of Africa, but has migrated from the peninsula with its master. The camel is not found among the figures of animals in the ancient Egyptian paintings on walls, nor does it appear to have been known to the Carthaginians. The breed of Oman is celebrated for its beauty and swiftness. Among the minerals of A. may be mentioned iron, copper, lead, coal, basalt, and asphaltum, and the precious stones, emerald, carnelian, agate, and onyx. Pearls are found in the Persian Gulf, where, on the island Bahreyn, in the town Bédaa, and on the coast adjoining it, 'all are slaves to one master, Pearl.'

But the most interesting feature of the peninsula is its ancient and peculiar population. The Arab is of medium stature, muscular make, and brown complexion. Independence looks out of his glowing eyes; by nature he is quick, sharp witted, imaginative, and passionately fond of poetry. Courage, temperance, hospitality, and good faith are his leading virtues; but these are often marred by a spirit of rapacity and sanguinary revenge. His wife or wives do the work, keep the house, and educate the children.

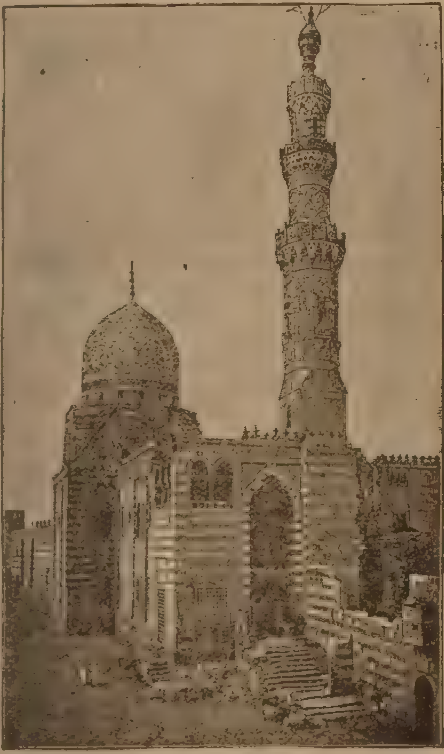
Arabian life is either nomadic or settled. The wandering tribes, or Bedouin, who have, however, their allotted winter and summer camping grounds, and a strong attachment to their own mode of life, entertain notions of the rights of property differing seriously from those regulating the West; yet even their most marauding tribes are not without a traditional code of law and honor, the only law recognized among them, the enforcing of it is left to every tribesman. The settled tribes, styled Hadesi and Fellahs, are despised by the Bedouin, who scorn to intermarry even with the few artisans that accompany every tribe. The Bedouin are several times outnumbered by the settled population, and therefore must not be regarded as typical Arabs, who are adventurous, commercial, and willing to become sailors. Yet mountain and desert barriers and patriarchal anarchy make A. 'the anti-industrial centre of the world,' where passing centuries bring no improvements save such as are forced on it by foreigners. The export of coffee, dates, figs, spices, and drugs, though still considerable, is said to be only a shadow of the old commerce which existed before the circumnavigation of Africa. A. has few manufactures, but carries on a transit trade in foreign fabrics, besides importing these to some extent for its own necessities. Education is mostly confined to that within the household, where, however, a boy is instructed in reading and writing, in grammar, history, and poetry, and where he is trained to habits of politeness and self-restraint. In the few higher public schools, writing, grammar, and rhetoric compose the whole curriculum. The government is patriarchal, and the chief men of the various tribes have the title of Emir, Sheikh, or, in a religious sense, Imâm. Their function appears limited to leading the troops in the time of war, to levying tribute, and to the administration of justice. A spirit of liberty in the people moderates the authority of their chieftains; but instances of extreme despotism have not been unfrequent both in early and modern times.

History. The Arabs are of two main races. The one occupying the north half of the country is conveniently called the Ishmaelitic; the other, covering the southern half, is called the Yoktanic if we use the Hebrew word—the Kahtanic if we use their own—and is in A. regarded as the pure old Arab stock. The origin of the Kahtanites is probably African. In prehistoric times they issued from Yemen, the most highly civilized part of the peninsula, in powerful colonies to Omân and Central Arabia.

If blessed is the country that has no annals, peculiarly blessed was A. before Islam, for then 'the history of the Arabs was the songs of the bards.' In 24 B.C. Ælius Gallus, prefect of Egypt under Augustus, attacked Yemen unsuccessfully. Trajan appropriated some extreme northern parts bordering on the empire, but they were restored after his death. Persia, too, intruded over the nearest frontier. In the 4th century the Abyssinians invaded Yemen, not for the first time, and they long ruled it. Again, in 529, a large Abyssinian army subdued Yemen, and held their ground for 76 years. But Hedjâz, the Barrier, proved impenetrable against Persia, Egypt, Rome, and Byzantium. The Arabs lived then more after the manner of the Bedouins at the present time, in tents of hair or woolen cloth, following the pastures, exchanging sheep for what corn they needed; their wealth consisting in camels, sheep, horses, and slaves. Government was not, but sheikhs chosen from certain families led the camps. The usage of blood revenge, calling out the kin of the slain against the kin of the murderer, punished or prevented homicide, and thus precluded alike peace and extermination. Gambling and drunkenness were common. Polygamy, and the husband's absolute power of divorce, the common practice of burying female children alive, and many old proverbs, as 'the best son-in-law is the grave,' illustrate the position of woman. Arabs were incurably prone to pillage, passionately fond of freedom, proud of birth, hospitable, true to their word, true to their tribe or to a tribesman, right or wrong, against the world. Scarcely ever was any tribe at peace with all its neighbors. But one bond of union was the annual fair of Okâdh, near Taif, a day's journey west from Mecca, which lasted all the pilgrimage month, and at which horse races, gymnastic sports, and poetic contests relieved the seriousness of trade. Mohammed, to prevent the feuds kindled by these contests, put an end to the fair. Another bond was the Káaba, the small rude temple of unknown antiquity at Mecca, wherein the tribal idols were collected. In Mohammed's youth, these numbered 365. Late in the 5th century the Koreish tribe became foremost at Mecca, and guardians of the Káaba. This post had ever been an object of rivalry and war among the tribes of both north and south, giving not only a religious pre-eminence over all A., but the disposal of the offerings of gold, silver, or of other kinds, accumulated in the temple, a fund which was increased by commerce on the Red Sea coast. To religion, destined to play so decisive a part in Arabian history, Arab nature is not much addicted. Before Islam, the primitive Sabæanism was forgotten or miserably degenerate; the tribal idols, stones, fetiches of simplest kinds, and jinns, were worshipped, and Allah, 'the God,' was vaguely acknowledged. But two monotheistic religions had cast roots among the tribes. Many Jews had immigrated into A. after the destruction of Jerusalem, and had made many proselytes, especially in Yemen, whither the Abyssinian conquerors had in the 4th century brought Christianity. In north Central Arabia this religion had found earlier access. In Mecca, Mohammed was born of the Koreish tribe in 571, the year of the Elephant, when the Abyssinians of Yemen had brought elephants to the unsuccessful siege of Mecca. Taught by the merits and shocked by the corruptions of those two religions, and by the lack of anything better, he, after a while, introduced by the sword his own doctrines, thus forming the grand epoch in Arabian history, and bringing A. into close connection with the general history of civilization. His flight (Hedjrah) in 622, July, on being driven from Mecca to Medina, where he gathered his first body of adherents, forms the Moslem era. Now for the first time, the people of A. became united under one sceptre and one creed, and powerful enough to erect new empires in the three quarters of the world: in Palestine, Mesopotamia, and Persia; in Egypt and the north of Africa; in Spain. The dominion of the Arabs, from the time of Mohammed to the fall of the Califate of Bagdad in 1258, or even to the expulsion of the Moors from Spain in 1492, is an important period in the history of civilization (see MOORS, CALIF). But the movements that had such great effects on the destinies of other nations left the peninsula itself in an exhausted and neglected condition. The monotonous darkness and storms of patriarchal anarchy are broken during the next thousand years by few events of importance. The invasion of Abu Taher, leader of the Carmathian sect (died 950), from the Euphrates, left no remnant of the califate, and little of orthodox Islam. A. was broken up into several independent principalities. The Turks subdued Yemen in the 16th century, and were expelled in the 17th. Omán, during the 16th and 17th centuries, was in the hands of the Portuguese, who held Muscat and other important points on the coast, 1508–1659; of the Dutch, who gained and lost many points; and of the Persians, who were driven out by the native prince Ahmed ibn Sa'ood, in 1759, who thus became Sultan of Omán. About 1760, Mohammed ibn Abd al Wah'hab, in Nejd, came forward as restorer of primitive Islam. The sword of his convert Prince Sa'ood gave the Wahábis dominion from the frontiers of Mecca to the Persian Gulf. After his death, Mecca and Medina were soon added. The Wahábi empire was shattered (1812–18) by Mohammed Ali, viceroy of Egypt, but almost immediately restored itself. Omán, however, had seized the opportunity to regain independence under its native sultan. It is now the most progressive part of A., and contains about 1,500,000 settled inhabitants. Shomer, to a considerable extent Christian, had, in the beginning of the 8th century, successfully resisted the Ommiade (Ommayyad) califs; had thereafter probably become nominally Moslem, then really heathen; was absorbed by the Wahábis, and freed itself when they fell. Its settled population is now about 250,000, the capital is Háyel. The Jowf had been early converted by the sword from some measure of Christianity to Islam, had soon thereafter gravitated into primeval heathenism, became the Wahábi empire's northern limb, and then quietly a province of Shomer. Hasa also freed itself, but, after an obstinate resistance, was reconquered. It is now Turkish. Nejd, the remaining Wahábi domain, has more than a million of settled inhabitants; its capital is now Riád. After Mohammed Ali's short independence, Yemen and the Hedjáz were restored to Turkey by treaty in 1841.

Authorities on A. are Pococke, Niebuhr, Burckhardt, Burton, Palgrave, and Welsted.

Arabian Architecture.—Before the time of Mohammed, and for long after, the Arabs or Moslems had no special architecture. They were not a temple-building people, but from their intercourse with the western nations they acquired a desire to give their religion a visible embodiment, like the churches of the Christians. Having no architects of their own, they had to engage architects and workmen from Byzantium, and their earliest mosques were thus erected in the style of the late empire, but of course the dispositions of the buildings were adjusted to suit the requirements of their worship. By degrees, the court usually placed in front of the Christian church became enlarged and surrounded with arcades, while the church was diminished in size and importance, and was represented merely by a deeper arcade. Such are the early mosques of Cairo, erected during the first two centuries of the Hedjrah, between 622 and 900 A.D. It is noticeable that in these buildings the arches are all of the pointed form, which seems to have been at a very early period in use in the East. This was afterward modified into the horseshoe shape which is peculiarly characteristic of Saracenic architecture. A rich and fanciful ornamentation known as Arabesque (q.v.) was added to the recognized features of Greek and Roman architecture. The exclusion of animal figures, which their abhorrence of the very appearance of idolatry necessitated, confined the Mohammedan artists to the imitation of vegetable productions, varied by geometrical patterns and inscriptions, of which the letters were woven into forms which suited them for architectural uses. At first Saracenic art partook largely of the styles of the countries into which the Mohammedan religion was introduced, but gradually a style more or less homogeneous was evolved, of which fine examples are found in Persia, India, Africa, and Spain, and of which the influence continues to the present day. In India



The Mosque of Kait Bey, Cairo.

this style finds expression in the magnificent tombs of the Tartar rulers, with their wonderful domes and graceful minarets (see AGRA). The gateways are also features of great size on which much ornament is lavishly displayed. In Spain, the Moors erected many important buildings, as the mosque of Cordova, begun by Abdel Rahman in 786, which resembles those of Cairo in general idea to the Alhambra at Granada, erected in the 13th century during the decadence of the Moorish rule. Many of these structures, although beautiful and elaborate in design, are unfortunately built with brick and stucco, and have yielded to the influence of time. The style of the Moors, after their expulsion from Spain, long continued to influence that of the Christians, especially in the southern part of that country.

Arabian Language and Literature. Regarding the oldest literary culture of the Arabians, we possess but slight information. As far back as Solomon's time, the queen of Sheba (probably *Arabia Felix*) was noted for her skill in enigmas. The nomadic tribes, living under the patriarchal rule of their sheikhs, possessed everything that was favorable to the growth of a simple and natural poetry. They had quick and vivid feelings, and a rich, glowing fancy, which, operating upon the perils, the hardships, and strange confederate life they led in those barren sand-deserts, and among naked rocks, could hardly fail to call forth a wild and vigorous minstrelsy. Before the time of Mohammed, the Arabians had celebrated poets who sang the feuds of tribes and the praises of heroes and fair women. During the great fairs at Mecca and Okádh, poetic contests were held before the people as at the Grecian games; and the poems to which the prize was awarded were re-written in golden characters, and suspended in or on the Káaba at Mecca, and are therefore termed Moallakat, 'suspended.' They are remarkable for their pathos, soaring conceptions, richness of imagery and phraseology, free and unconstrained spirit, and the glow of their love and hate. Among the famous poets of this early period are Nábegha and others, whose works were translated and published by De Sacy in his Chrestomathie Arabe, and Kaab ben Zohair, who lived to celebrate the praises of the prophet Mohammed.

But Arabian literature began a new career with Mohammed, though his Korán contains not one precept favorable to literature or science. During the first eighty years of their conquests, when they had extended their dominion from Egypt to India, and from Lisbon to Samarcand, nothing can be said of their culture and refinement. A fanatical desire of conquest prevailed. Gradually, however, the taste for elegant pleasures arose during the repose that followed conquest, and the conquerors served themselves heirs to the civilization that was perishing around them. With the Abbaside califs, literature, science, and art arose (750 A.D.); when the califate fell (1258), they entered on their decline. They were generously fostered under the splendid sway, first of Almansor (754-75), and afterward of the celebrated Haroun Al Raschid (Harún Al-Rashid, 786-808). Learned men were invited to their courts from many countries, and remunerated for their labors with princely munificence; the works of the best Greek, Syriac, and old Persian writers were translated into Arabic, and spread abroad in numerous copies. The Calif Al-Mamún, who reigned from 813 to 833, offered to the Greek emperor five tons of gold and a perpetual treaty of peace on condition that the philosopher Leo should be allowed for a time to give him instruction. Under the sway of the same Al Mamún, excellent schools were founded in Bagdad, Basra, Bokhara, and Kufa; while large libraries were collected at Alexandria, Bagdad, and Cairo. In Spain, the high school of Cordova rivalled the literary fame of Bagdad; and generally, in the 10th century, the Arabs appeared everywhere as the preservers and distributers of knowledge. For this period of Arab glory corresponds exactly to that of Europe's deepest darkness, when Italy had no philosopher but the French pope, Sylvester II (died 1003), whose learning, obtained from the Arabs of Cordova, earned him the name of necromancer.

Pupils from France and other European countries then began to repair to Spain in great numbers to study mathematics and medicine under the Arabs. There were fourteen academies, with many preparatory and upper schools in Spain, and five very considerable public libraries. When 30 volumes were a great library for a rich monastery, the library of the Calif Hakem II of Spain (died 976) contained, it is said, more than 600,000 volumes. This state of culture when compared with that prevalent before Mohammed, shows a rapidity of progress in knowledge almost as remarkable as the career of Arabian conquest.

The Arabs despised the languages of Greece and Rome, abhorred their poets for their heathenism, and lacked their temperate dignity of style; but in science the Arabs were willing scholars, and rendered important services. Arabic words still employed in science, such as algebra, alcohol, azimuth, zenith, nadir, with many names of stars, etc.—remain as indications of their influence on the early intellectual culture of Europe. But geography owes most to them during the middle ages. Conquest, widened political connection, trade and the duty of pilgrimage, impelled them to this study. The old Arab treatises on geography, and works of travels in several countries by Ibn Fodhlâ (died 921), the fugitive African calif, Edrisi (circa 1153)), Ibn Jobair (died 1217), Abulfeda, prince of Hamath (died 1331), Ibn Batuta (died 1377), Albiruni the historian, and others, are still interesting and valuable.

Of what happened in the world before Islam the Arabs cared to know nothing but the lives of the patriarchs and prophets, and a little of Persian history; but the history of the world after Islam arose was studiously cultivated. After the dawn of the 10th century history became a favorite study of the Arabs. The first that attempted a universal survey of the subject were Masûdi (died 957), in his Golden Meadows; the Persian Tábari (died 923), whose annals, of great bulk and value, were in 1887 in course of publication by De Goeje and others in Leyden; and Eutychius, Christian patriarch of Alexandria (died 950). These were followed by Abulfáraj or Bar Hebræus, philosopher and also theologian, 'the phœnix of his age;' and George Elmakîn (flourished in Egypt in the 13th century), both Christians; Abulfeda; Nuvairi, who wrote a cyclopedia (circa 1331); Makrizi, who wrote the history of Egypt (died 1441), and others. See Wüstenfeld's Geschichtschreiber der Araber (1882), and translations by Quatremère.

Arabian theology and jurisprudence are intimately connected, and both founded on the Koran; but are by no means so simple and uniform as is generally supposed. Speculation first began to prevail during the Ommiade dynasty, and the Aristotelian philosophy to be studied by the Arabs.

As a consequence, the vague statements of the Korân were soon variously interpreted, and a host of sects gradually arose. Of these, four only are regarded as orthodox, leaving not less than seventy-two heretical, whose discordant tenets are stated in the work of Shahrestani (trans. by Cureton, London, 1842). The four orthodox sects arose in the 8th century, and are: the Hanifites, who do not reject tradition, but subordinate it to reason; the Shafiites, who entirely refuse the aids of reason and philosophy in their treatment of theology; the Kambalites and the Málechites, who allow speculation on points where there is no tradition. The collection of traditions known as the Sunna gives an account of the sayings and doings of Mohammed, and, though pedantic in its details, is in substance more valuable than the Korân. The interpretation of the Korân constitutes the principal part of education in theological jurisprudence. The most celebrated of the commentators are Zamákhshari, rationalistic, and Baidhâwi, orthodox. Consult Tornauw, Das Moslemische Recht (1885.)

Arabian philosophy, which was of Greek origin, held the same relation to the Koran as the Scholasticism of the middle ages did to the Christian Scriptures—that is, it was regarded as the servant of faith. The chief study of the Arabs was the writings of Aristotle, who became known in Spain, and subsequently in all Western Europe, through translations from Arabic into Latin; though the Arabs themselves only knew the Greek philosopher in translations made during the time of the Abbasides. Especial attention was paid to logic and metaphysics. The most distinguished of their philosophical writers are: the honored leader, Alkindi of Basra, who flourished about the beginning of the 9th century; Alfarabi, who wrote a work on First Principles in 954; Avicenna (died 1037), who combined the study of logic and metaphysics with that of medicine, and made considerable progress in chemistry, nosology and medical botany; Alghazali (died in Bagdad, 1111); Abubekr-ibn-Tofail (died in Seville, 1190); and his pupil, Averroes, greatly esteemed as an expositor of Aristotle. For an account of these men and their systems, see Sur les Écoles Philosophiques chez les Arabes, by Schmoelders (Paris, 1842); and Rénan's Averroès et l'Averroisme (1850).

Many of these illustrious Arabian philosophers were also physicians. The science of medicine is essentially a creation of the Arabs, to whom the oldest sources of knowledge, that of the Indian physicians, had been early opened. Chemical pharmacy (see ALCHEMY) was created by the Arabs. Pharmacy and materia medica naturally led to botany and chemistry. For three centuries (from the 8th to the 11th) a rich scientific culture prevailed, Schools of philosophy and medicine sprang up at Jondisahur, Bagdad, Ispahan, Firuzabad, Bokhara, Kufa, Basra, Alexandria, Cordova, etc. In all departments of medical science a great advance was made, except in anatomy (the Koran forbidding the dissection of human bodies). The most famous writers on medicine are Râzi of Bagdad (died 932); Alkindi; Avicenna (980-1037), who wrote the Canon of Medicine, for a long time the only handbook on the subject; Abulkasem of Cordova (died 1107); and Averroes (1126-98), who wrote a complete system of medicine.

In mathematics, the Arabs made great advances by the introduction from India of the numerals and mode of notation now in use, of the sine instead of the chord in trigonometry (thanks to Albatâni), and of a more extended application of algebra. While alchemists, searching for the elixir of life and the philosopher's stone, were founding chemistry, astrologers were enriching astronomy, which was zealously studied in the famous schools and observatories of Bagdad and Cordova. Alhazán wrote upon optics. The Almagest, or System of Astronomy, by Ptolemy was translated into Arabic as early as 812. In the 10th century, Albatâni, the greatest of Arabian astronomers, a Sabaean by religion, and born in Haran (died 929), observed the advance of the line of the apsides in the earth's orbit. Abu Hassan Ali wrote on astronomical instruments in the 13th century.

Besides these advances in the solid branches of knowledge, the genius of the Arabs continually flowered into poetry. Numerous poets sprang up in all lands where the children of the desert had carried their irresistible faith. Their verse, however, was not like the rude, simple minstrelsy of a purely patriarchal people; it gradually allied itself to the prevailing culture, and took, especially in the golden epoch of Arabian civilization, a highly artistic form. None has been more highly esteemed than Motanebbi (killed 965) and Abu Temâm (died 845), who compiled the old poems that compose the Hamâsah. Famous, too, are the satirist Abul Olá (died 1057), the Egyptian Busiri, whose Bordah is a eulogy of Mohammed, and two Syrians, El Rûmi (died 896), and the profound Ibn Farid (died 1235; his Diwán was published at Beirût, 1874). Hamdáni (died 1007) introduced novels in rhyming prose like that of the Korán, and wrote four hundred of them under the name of Maqamat. Hariri (died 1121) brought this form of literature to perfection. Azzeddin (died 1259) wrote an ingenious allegorical poem, The Birds and the Flowers. Besides these, a singularly wild and fantastic prose literature made its appearance, in which the craving for the wonderful and gorgeous, so characteristic of the restless, adventurous Arabs, was richly gratified. Romances and legendary tales abounded. The most famous of these are: The Arabian Nights' Entertainments (q.v.), The Exploits of Antar (pub. Bulâq, [illegible]), The Exploits of the Champions, and The Exploits of Bibars. The taste for proverbs, fables, and biography was extensively indulged. In fact, with the exception of the drama, condemned by the Prophet, there was no sort of literature that the Arabs did not attempt. The trouvères of Northern France, the troubadours of Provence, the inspirers of Italy, and the romancers of medieval Europe owed much to the Arabs, whose influence on modern literature still endures. The tales of fays, charms, sorceries, and the whole gorgeous machinery of enchantment passed into the poetry of the West. During the middle ages of European history several of the most popular and widely spread books came from or through the Arabs, such as The Seven Wise Masters and The Fables of Bidpai (q.v.), though the Arabians themselves borrowed largely from the Persian stories and the Greek fables. See Clouston's Arabic Poetry for English Readers (Glasg., 1881).

All this culture of the early ages of Mohammedanism presents a strong contrast to the [illegible] which now prevails among the Arabs. The brutal fanaticism of the Turks nipped the blooming promise of the East; [illegible] the peoples await in apathetic resignation [illegible] to higher modes of life. Literature has produced nothing worthy of notice. Learning spends itself [illegible] in scholastic discussions on [illegible] and jurisprudence, and in tedious grammatical disquisitions concerning the old Arabic speech, [illegible] but always unprofitable and unenlivening. The swift and mobile genius of the East has departed and pedantic dullness has usurped its place.

There are 'Dryasdusts' even in the desert. A few modern writers have attempted, with more or less success, to imitate European forms of thought and sentiment. Of these may be mentioned Michael Sabbagh of Syria; the Sheikh Refaa of Cairo; Nasif-Effendi of Beirut, who wrote the critical observations in De Sacy's edition of Harîri (Epistola Critica, Leip., 1848); B. Bistâni in his cyclopedia (Beirût, 1875).

The Arabic also possesses a Christian and Jewish literature, which, however, is chiefly ecclesiastical. Its principal ornaments are Eutychius, Elmakin, and Abulfáraj. Translations of the Old Testament were made, not from the Hebrew, but from the Septuagint, or from Latin versions. In the middle ages, the Spanish Jews employed Arabic for their learned compositions, and several of the most important works of Moses Maimonides, for example, were originally written in that tongue. Consult on Arabian literature, D'Herbelot's Bibliothèque Orientale; Kremer's Kulturgeschichte des Orients (1875-7); Zenker's Bibliotheca Orientalis (1846-61); and Ibn Ishâq's Kitab-al-Fihrist, the oldest Arab cyclopedia of literature, of about 1000 A.D., published by Flügel (2 vols., Leip., 1871-2).

The Arabic language, it has been remarked, is at once both rich and poor. It is necessarily destitute of innumerable words describing those ideas and objects which only civilization can develop or produce; but, on the other hand, the rich and nimble fancy of the Arabians has multiplied, to an almost incredible extent, the synonyms of their desert tongue, so that in some cases hundreds of expressions are found for the same thing. The Arabic belongs to the so-called Semitic family of languages, among which it is distinguished for its antiquity and soft flexible grace. Through the Koran, the dialect of an Ishmaelitic tribe, the Koreish, became the predominant language of literature and commerce throughout the whole extent of the Arabian dominions. The Himyaritic from Abyssinia, and closely akin to the ancient Ethiopic, is known as yet only by a few inscriptions, etc. Arab poems till 750 consisted mostly of from two to one hundred and twenty lines of one rhyme. Thereafter was developed an exact and complex prosody. Al-Jauhari, who died in 1009 A.D., drew up a dictionary of the pure Arabic speech, which he entitled Al-Sihah ('Purity'), and which is held in high estimation to this day. Mohammed-ben-Yakub al Firuzabadi, who died in 1414, was the author of an Arabic Thesaurus, entitled Al Kamus ('The Ocean'), which is the best lexicon in the language, and has consequently been translated into Persian and Turkish. Jorjani has explained, in alphabetical order the meaning of the technical terms used in Arabic art and science. His work was published by Flugel (Leip., 1845), under the title of Definitiones. Meidani made a large collection of Arabic 'saws,' apophthegms, etc., which was published by Freytag (Bonn, 1838). Through the conquests of the Arabs in Sicily and Spain, their language became known in Europe; but, notwithstanding the numerous traces of its influence in various European tongues, it became forgotten after the expulsion of the Moors from Spain. The first European scholars who earnestly took up the subject were the Dutch in the 17th century; after them, the Germans, French, and English. The more learned theological students consider it a necessary part of their education. Maltese is an Arabic dialect, akin to the Mozarabic of the Spanish Moors. In Turkish partly, and even in Malay, the traces of Arabic appear. In Persian every fourth, and in Hindustani every fifth word is Arabic. In recent times the purely negro population of the central and western Sudan have in receiving Islam, made considerable progress in civilization and the knowledge of Arabic. The Arabic language is never printed but in the ancient classical form, of which the Koran is regarded as the unapproachable standard. Classical Arabic is spoken in northern central Arabia, differences [illegible]. Elsewhere the language has lost, as Hebrew had lost before the latest books of the Bible were written, the final vowels distinctive of case in nouns, and person in verbs. [illegible] Arabic is less pure than the native, but purer than [illegible] the Arabic spoken from Tripoli to Morocco. Wright's Arabic Grammar [illegible] is one of the best extant; Lane's Arabic Lexicon [illegible] is a standard work, and Badger's English-Arabic Lexicon [illegible] is also excellent. The grammatical and lexicographical works of Caspari, Freytag, Fleischer, and De Sacy, are most important. See SEMITIC LANGUAGES.

Arabic Writing.—Like all Semitic writing, this proceeds from right to left. It is borrowed from the old Syriac, and was probably introduced into Arabia by Christian missionaries about the time of Mohammed. In its oldest form it is called Kufic, from the town of Kufa, on the Euphrates, where the transcription of the Korân was busily carried on. Its characters are rude and coarse, and it has particular symbols for only sixteen of the twenty-eight Arabic consonants. This writing, nevertheless, continued to be employed for 300 years, and for coins and inscriptions even later; but in the 10th century it was displaced for common purposes by a current handwriting, the Neskhi, introduced by Ibn Mokla. This is the character still in use, more or less modified, by all nations that have adopted the Mohammedan religion. In it, the consonants which resemble each other are distinguished by points, and the vowels by strokes over and under the line; but in writing and printing, the vowels are commonly omitted.

The following passage, the translation of John iii., 16, as published by the British and Foreign Bible Society, will show the character (see also ALPHABET, p. 188). It may be thus transliterated:

لانهُ هكذا احبَّ اللّٰه العالم حتى بذل ابنهُ
الوَحيدَ لكي لا يهلك كلُّ من يؤمن بهِ بل تكون
لهُ الحيوة الابديَّة.

Liannahu hakatha ahabb Allah el'alam hatta bathal ibnahu elwahid lkai layahlik kull man yu'min bihi baltakun lahu elhayyat elabadiyat.

Arabian Nights' Entertainments. (*Alf Laylah wa Laylah*, A Thousand Nights and a Night), in Christian lands, the best known product of Arabian literature. The name and plan of this work are very ancient. Masûdi in his famous history, Golden Meadows, written in 943, mentions the Persian Hezâr Afsâne, translated into Arabic, with the name A Thousand Nights and a Night. Mohammed ibn Ishâq, in his work Al Fihrist, written in 987, mentions the Persian work as well known to him, and as containing about two hundred tales divided into a thousand nights. He thus relates its origin: A Persian king used to marry a new bride every day, and put her to death next morning. One wife was Shahrazâd (Scheherazade), who had understanding and discretion. As they sat together she began a tale, and late at night she broke it off at such an interesting point that the king next morning spared her life, and at night begged her to continue her tale. So she did a thousand nights. Meantime she bore him a child. Presenting the child to him, she told him of the craft she had used; and the king, whose love she had now gained, admired her policy and let her live. Mohammed adds that the book was written for the Princess Homai, daughter of Bahman Artaxerxes, and that it had been translated into Arabic with alterations, some new tales being substituted for old.

The much befabled Princess Homai is half mythical, like the Babylonian Semiramis, an accredited doer of many things whose author is unknown. Masûdi tells that her mother was a Jewess whom Bahman had married, and who delivered her people from bondage; in short, she was the Esther of Israelitish tradition. But Persian poets and Arabian historians do not make it clear whether the name Shahrazâd belonged to the mother or the daughter. Tabari calls Esther the mother of Bahman Artaxerxes (Longimanus); this is implied in the biblical story, as Ahasuerus seems to be Hebrew for Xerxes.

The occasion of the book written for the Princess Homai resembles the story told in the Hebrew Bible about Esther, her mother or grandmother, by some Persian Jew two or three centuries B.C. The likeness is closer between the biblical story and that of Shahrazad as it appears in the Arabian Nights, the surviving representative of the Persian Thousand and One Nights. In both, the Persian king is offended with his queen; from the Persian book we cannot tell why; in the Hebrew, because she has insulted him at a banquet before his princes and lords; in the Arabian, for a fouler reason. In all three, thereafter, the king has a new wife daily. The Persian and the Arabic consign her next morning to death; the Hebrew merely to the seclusion of the harem. All three tell that the king at length honored as queen the one that gained his lasting love; the Arabic makes her the grand-vizier's daughter; the Hebrew, the vizier's foster-daughter. The Persian ascribes to her her people's deliverance from bondage; the Hebrew, their salvation from massacre; the Arabic originates her hardy resolution to marry the blood-thirsty king in her zeal to save the daughters of her people. In all three the king is charmed at night with recitals from the past. In the Persian story she is aided by the king's housekeeper, in the Arabian by her own sister, in the Hebrew by the King's chamberlain.

A quotation by Makrizi from Ibn Said of about 1250 mentions the Thousand and One Nights as a romantic work. Meantime the work seems to have, in the course of centuries, had the experience of a celebrated pair of hose which lost their identity by universal patching, and to have been edited into its present form about 1450 in Egypt, and most probably in Cairo. How much of the Princess Homai's book remains in it we cannot tell, nor where to look for this remainder. The Persian origin of some of the tales is evident; equally evident the Indian origin of others, notwithstanding the location in Bagdad, and the presence of the Calif Haroun Al Raschid. But in a great part of the work both form and matter appear to be Arabian. The foundation of many tales in history or legend or older tales limits their age. The story of the city whose inhabitants are turned into fishes, the Christians into blue, the Magians into red, the Jews into yellow, the Moslems into white, cannot well be older than the year 1301, when the sultan of Egypt, to distinguish true believers from infidels, ordered Christians to wear blue turbans, and Jews yellow, while white turbans were reserved for Moslems alone. The story told by the purveyor of the sultan of Cashgar is taken, and considerably spoiled in the taking, from the Chronicle of Ibn Al-Jauzi, who died in 1200. It is the story of Qamar, slave of the princess mother of Al Moqtadir, who was calif from 910 to 932. Others are traced by Mr. Lane. The Thousand and One Nights has never been patronized or protected by the literary classes of the East. The puritanical spirit of high Mohammedan literature demands an apology from any merely entertaining author for not better employing his time. The Thousand and One Nights accordingly bears the penalty of being neither religious nor scientific. Its style is mean; it has been much handled about in fragments among the comparatively uneducated; told by professional story tellers so as to suit the rough audiences of Eastern towns; and copied from such men's dictation, individual taste or fancy filling many a blank.

Various editions differ considerably in the telling and order of the stories. The best are the not well printed Bulaq edition, the very similar but well printed Calcutta edition of 1839, and the Breslau edition. No MS. appears to be older than 1548, the date of that used by Antoine Galland. His French translation, published in Paris 1704-8, in 12 vols., was long supposed to be the fruit of his own imagination. It much misrepresents his original, and the Eastern life. Rendered into English, it is the most popular form of the Thousand and One Nights in Britain. He inserted into it ten tales of unknown origin; but in 1887 Burton found the Arabic text of two of these, including Aladdin, in a Parisian library. In 1840 E. W. Lane, prepared by several years spent in Cairo entirely among Arabs in the Arabian manner, published his scholarly translation, in which he has sacrificed the coarseness of the original and much of its wearisome length. His notes are admirable, and often as delightful as the text. Payne's translation, complete but not very accurate, was published for subscribers, in 9 vols., 1882-4. Sir Richard Burton's varied learning and rare mastery of English and Arabic make his translation printed for subscribers in 10 vols. (at 'Benares,' 1885-7), a vigorous and uncompromisingly accurate representation of the original. Five supplementary volumes were added subsequently. Lady Burton's expurgated edition of her husband's work is in course of publication (1887). See M. J. De Goeje on the whole subject in De Gids, September, 1886.

ARGENTINE REPUBLIC, *ar'-jĕn-tīn*, a federal republic of South America, consisting of fourteen provinces, and comprising in addition immense unorganized tracts, is so called from the Latin *argentum*, silver, because when Sebastian Cabot, then in the service of Charles I. King of Spain, visited in the year 1527 the great estuary formed by the junction of the rivers Paraná and Uruguay, he noticed that the Indians were profusely decked with silver ornaments, and called it Rio de la Plata, or Silver river.

Geography. The A. territory is over 2,000 miles long, with an average breadth of 500 miles, and has an area of 1,200,000 sq. m., or over ten times that of the British Islands, or one third that of the United States. It divides itself naturally into four regions: (1) the Andine, including the provinces of Mendoza, Catamarca, San Juan, Rioja, Salta, and Jujuy on the n. and Tucuman; (2) the Pampas extending from Pilcomayo on the n. to Rio Negro on the s., and embracing the Gran Chaco territory and the provinces of Cordova, Santiago, and San Luis, the coast provinces of Buenos Ayres and Santa Fé, and the vast territory of the Pampas, (3) the riverine district, including the provinces of Entre Rios and Corrientes, with the northern territory of Missiones; (4) Patagonia, embracing the territories of Santa Cruz, Rio Negro, Neuquen, Chubut, Tierra del Fuego, and the eastern part of the Fuegian archipelago. The great chain of the Andes forms the western boundary of the A. R. It is bounded on the n. by Bolivia, and on the w. by Brazil, Paraguay, Uruguay, and the Atlantic ocean. The fourteen provinces cover about half of the entire area; the rest, 580,000 sq. m., is roamed over at will by fierce and untamed bands of Indians.

Physical Characteristics. The Andean range is the key to the physical characteristics of the A. territory, for it arrests the winds blowing in from the Pacific and robs them of their moisture, producing an arid climate in the whole western part of the republic, the eastern part alone receiving moisture from the Atlantic winds.

The southern or Patagonian end is covered with coarse gravel and bowlders, and is dotted with salt lakes and ponds, and produces only a very coarse grass. The proofs are indisputable that this region was once the bed of the ocean, which then dashed against the bases of the Andes; but the land has since been upheaved to a height of 400 feet in the s. and 100 feet in the Pampas region.

The Pampas are an immense grassy prairie with a deep rich soil varying from three to six feet, originally the detritus of the Andes, and enriched by countless centuries of vegetable deposits. This region is divided from the great forest tract of the Gran Chaco by a low elevation which forms the watershed, the streams to the n. flowing into the Parana, and those in the s. either sinking out of sight in the interior or in some cases reaching the Atlantic, as in the case of the Colorado, Negro, and Chupat. There seems no doubt that in geologic times the Atlantic and Pacific oceans were united along the valley of the Rio Negro.

Climate, Soil and Products. Owing to the immense extension of the territories of the republic northward and southward, every variety of climate is to be found, ranging from intense tropical heat to disagreeable [illegible], lasting all the year. Most of the soil is fertile, but the greater part requires the aid of irrigation, especially in the s. and w. Only about one half of one per cent is yet under cultivation, but the recent great extension of railways will greatly stimulate agriculture. Apple trees and vines have run riot since they were introduced, and all kinds of European fruits can be successfully grown. Wheat, [illegible], corn, flax, alfalfa, and sugar-cane, are grown and exported, and wines, spirits, dried fruits, and maté or Paraguay tea are produced extensively. But so far the main industry of the republic has been ranching, and the most important exports have been hides, hair, tallow, skins, bone ashes, phosphorus, [illegible] salted and dried meats, fresh frozen beef and mutton, and live-stock.

The total value of the harvest of 1888 was $100,255,000, a large sum, but when we [illegible] the value of our this year's harvest [illegible] an average was $1,[illegible] it will [illegible]

The live-stock in 1888 [illegible] cattle, 4,[illegible] horses, and 70,453,665 sheep, having a total value of $[illegible].

Fauna and Flora. The fauna and flora of the A. R. are varied and abundant; wild flowers and [illegible] make the prairies gay in spring and summer, and in the Gran Chaco there is a tropical luxuriance of vegetable growth.

Birds are numerous, including humming-birds, parrots, and flamingoes, and especially the *Rhea nandu*, or American ostrich. Among the quadrupeds are the armadillo, peccary, skunk, nutria, chinchilla, biscacha, ant-eater, and many varieties of deer. Wild cattle and horses, the descendants of old imported Spanish stock, roam in vast herds over the oceanic expanse of the Pampas.

Minerals.—The republic is rich in mineral treasures, which, however, cannot be profitably developed for some considerable time owing to the lack of transportation facilities. Gold, silver, copper, lead, coal, iron, marble, salt, alum, and cement are known to exist in abundance.

Population.—In 1869 the population was estimated at 1,737,000, besides 93,000 Indians, although any estimates of the number of these fierce nomadic savages must be taken as mere guesses. In 1882 the population was returned as 2,942,000, and in 1889 at 3,876,654. The latter figures, even making a liberal addition for the Indians, show that this vast territory, which could easily support one hundred millions of inhabitants, has to-day less than four to the square mile.

During the last ten years, until the recent financial disturbances checked it, there was an annual immigration of about 100,000, 70 per cent. of whom were Italians, 10 per cent. Spaniards, 8 per cent. French; the remaining 12 per cent. being of various nationalities, chiefly English, Scotch, and Welsh.

Of the entire population, excluding the Indians, about two-thirds are Argentines, mostly of Spanish blood, although in the peasantry of the Pampas, the Gauchos, there is a strong admixture of the Indian. The remaining third is made up of other races in the following order of numerical importance: Italians, Spaniards, French, British, Germans, and Swiss.

Distribution of Population.—The province of Buenos Ayres is by far the most populous of the fourteen, containing more than twice the population of Cordova, the next in rank; then come Entre Rios, Santiago, Corrientes, and Tucuman.

As might be expected, the riverine provinces contain the largest population, closely followed, however, by the upper provinces, the northwestern provinces of Cayo being in comparison sparsely settled.

As the province of Buenos Ayres is emphatically the most important in the republic, so the city and port of the same name is the metropolitan city; it contains nearly [illegible] people, including the suburbs, almost a third of whom are foreigners.

The position of Buenos Ayres on the great estuary of Rio Plata, the gateway of by far the largest lines of internal water communication in the territory, would naturally mark it out as predestined to be a great port. The harbor, long marred by shoals, has been recently greatly improved by costly engineering works. Buenos Ayres is a modern and highly civilized city, scientifically drained, and provided with the latest conveniences in the way of lighting, water supply, and transportation. It is a busy manufacturing centre; here are produced wine in large quantities, furniture, sugar, flour, spirits, canned meats and fruit, carts, carriages and harness, macaroni, cigars, and wax matches. The manufacture of vegetable oils for the table from peanuts and oleaginous seeds is an important industry.

The next largest cities of the republic are Cordova (66,600, census of 188[illegible]), Rosario (55,000), Tucuman (40,000), La Plata (30,000), Mendoza, Corrientes, Paraná, Santa Fé, San Juan, Gualeguay, Gualeguaychu, Salta, Santiago, and San Nicolas. Among the important riverine towns are Rosario, Paraná, and Corrientes, and among the rising seaports, Bahia Blanca, and Ensenada.

Commerce.—The principal commerce of the A. R. is naturally maritime, commercial intercourse with her energetic neighbors the Chilians having hitherto been severely restricted by the difficult passage of the Andes, but the approaching completion of the trans-continental line between Buenos Ayres and Valparaiso by the closing of the small gap in the mountains, which alone remains to be accomplished, will greatly stimulate trans-continental trade. France has hitherto taken the largest share of A. R. products, Great Britain coming second, but the latter power has sold to the A. R. the most manufactured goods. The total value of merchandise imported in 1889 was $164,345,[illegible], against $[illegible] in the year preceding.

The exports for 1889 amounted to $122,596, 563, against $99,974,892 in 1888. The imports and exports of coin and bullion for 1888-9 may be seen from the following:

	IMPORTS, COIN AND BULLION	EXPORTS, COIN AND BULLION.
1888	$44,810,150	$8,734,500
1889	11,749,759	28,431,251

TABLE OF ARGENTINE'S FOREIGN TRADE IN 1889.

Countries.	*Exports.*	*Imports.*
United States	$7,732,350	$15,360,069
Belgium	16,390,908	13,396,000
Germany	17,164,498	15,618,783
Uruguay	17,612,952	18,552,966
France	38,465,367	30,650,480
Great Britain	25,331,946	56,960,300

From the above it will be seen that Great Britain was the heaviest trader with the republic, and that France was a good second.

Architecture. The early houses of the colonists, except in the towns, were mere thatched cabins; they were succeeded by adobe structures, with very thick walls and cane roofs, windows small and grated, heavy studded doors, and large interior courtyards after the Andalusian style. To-day the prevailing domestic architecture, especially in the towns, may be described as a refined form of the Andalusian; the houses are flat roofed, with tiled coverings and balustraded parapets, the walls are stuccoed and gayly tinted, the window gratings are highly ornamented, the patios and halls are often marble paved, and the interior walls often richly decorated. The most modern buildings are several stories high, and are constructed on the iron and steel girder plan, with walls of brick or stucco, and all hygienic conveniences.

Religion. The established religion is Roman Catholic, and is adhered to by 96.8 of the population; but toleration is guaranteed by the constitution.

Education. Many schools are maintained at the public cost, including normal, agricultural, mining, and training schools. In 1889 there were 3,042 primary schools, with 6,163 teachers, 259,635 scholars; 2,373 primary school houses, 485 of which were national or provincial property, and 1,888 private; 16 national colleges, with 464 professors, and 2,599 students, and 2 universities, at Buenos Ayres and Cordova, with a total of 983 students, and an annual distribution of 234 diplomas. The university of Cordova has charge of the National Astronomical Observatory, and is the oldest institution of learning in the New World, having been founded by the Jesuits in 1620, and having received from king and pope the authority to confer degrees in 1621.

The Post Office. The Press. The press may be said to be yet in its childhood in the A. R.; but it is growing rapidly in numbers and influence.

The statistics of the postal traffic for 1889 were 42,965,555 letters, 965,250 postal cards, 32,763,067 newspapers, etc., etc.

Telegraphs and Railroads. In 1888 there were 14,700 miles of telegraph in operation, of which about half, or 7,300 miles, were national property; the total length of wires was 22,750 miles.

The recent development of railroads has been enormous; there were in 1889 5,040 miles of railroad in operation, and 2,680 miles under construction; the railroad receipts for the previous year were $21,000,000, and the expenses $12,250,000.

In 1889 a concession was granted for a direct submarine cable from Buenos Ayres to Europe, to be completed in two years and a half, that is by 1892, May 1.

Vessels Entered and Cleared. The number of vessels entered and cleared at A. ports during 1887-8 was 12,463 aggregating 4,885,775 tons; the number cleared was 10,810, and the tonnage 4,319,487. Of the above 20 per cent were Argentine, 30 per cent British, 16 per cent French, and 7 per cent Italian, the rest being under the flags of other nationalities, such as the German, Belgian, United States, etc.

Government. The government is modelled on that of the United States, a president being elected for a term of six years, a senate whose members are elected by the provinces in proportion to population; the senate elect their own president, who becomes, *ex officio*, vice-president of the republic. The members of the lower house are elected by districts of equal population. The several provinces retain entire control over their own affairs, except what they have expressly delegated to the federal government. Buenos Ayres, besides being the seat of government of the province of that name, is also the federal capital. Foreign settlers may elect to become Argentines, or may at will retain their own nationality.

Revenue and National Debt. The total revenue for 1889 was $60,224,000, and for 1890, $74,374,000, and the expenditures for 1889, $61,781,428, and for 1890, $67,881,884. The national government has contracted a very heavy debt, and several of the provinces have followed the example. The following is a

STATEMENT OF THE ARGENTINE NATIONAL DEBT.

Year 1888.	*Amount.*	*Interest Charges.*
Exterior debt	$127,262,000	$11,500,000 in gold.
Interior debt held abroad	29,140,900	1,748,454 " "
Interior debt held in the republic	162,920,153	($68,778,298 of this bears no interest.)
Floating debt	5,000,000	250,000
Interest promised by nat. gov. to railroads to be returned from earnings		5,925,000

REVENUE OF NATIONAL GOVERNMENT FOR 1890.

Import duties	$48,000,000
Railroads	
City taxes	3,900,000
Banks	7,000,000
Post-office, etc.	6,050,000
Various	8,670,000
Total	$74,370,000

Army and Navy.—The army and navy are recruited by voluntary enlistment. The regular army in 1889 consisted of 1,000 artillery, 2,500 cavalry, 3,500 infantry, or a total of 7,000 men with 1,129 officers. The militia numbered 236,000 men between the ages of seventeen and forty-five.

The navy in 1889 consisted of 1 sea-going iron-clad of 4,200 tons displacement, the Almirante Brown, 1 cruiser with protected deck, 2 iron-clad monitors, 6 gun boats, 9 torpedo boats, and several dispatch boats, sailing vessels, and transports. In 1890 two torpedo gun-boats were launched in England for the A. navy, each armed with 2 Gatling guns, 6 quick-firing Nordenfeldt guns, and 5 torpedo tubes.

History. In the year 1516 Juan dia de Solis, in command of an expedition in search of a southwest passage to the Indies, visited the Rio de la Plata, but he and several of the party were murdered by the Indians, and the survivors incontinently fled.

In the year 1527 Sebastian Cabot entered and named the estuary, and sailed up the Paraná and established a settlement in Santa Fé named San Espiritu.

Buenos Ayres was founded by Mendoza in 1534, was burned by the Indians, and refounded in 1542; the following year it was again abandoned. The city was finally and firmly established in 1580 by an expedition from the city of Santa Fé, which had meanwhile been built.

In 1559 Hurtado de Mendoza, crossing the Andes, founded the city of Mendoza and from Peru the Spaniards founded the A. cities of Tucuman in 1565, and of Cordova in 1573.

The A. territory remained subject to the viceroy of Peru until 1776, when Buenos Ayres became the seat of the A. government, which then included the territories of Paraguay, Uruguay, and Bolivia, now independent republics.

The progress of the cis-Andean territory was for a long time very slow, owing to the narrow trade restrictions imposed by the home government, and the southern continent was torn by sanguinary wars with the Indians. In 1776 free trade was permitted between all the provinces of the viceroyalty of Buenos Ayres.

During the Anglo-Spanish wars which marked the earlier years of the present century much fighting took place in the estuary of the Rio Plata, and Buenos Ayres and Montevideo were stormed by the British.

When Joseph Bonaparte was placed on the throne of Spain in 1809, the viceroy of Buenos Ayres was deposed by those who took the side of Ferdinand, and a new viceroy, Cisneros, appointed in Ferdinand's cause. Cisneros opened the trade of the country to foreign nations, and in 1810 consented to the formation of a provisional government. After a bloody struggle, in 1816, the separation of the country from Spain was formally decreed, Bolivia, Uruguay, and Paraguay declaring each her own independence.

In the year 1825 the national constitution was adopted, and in 1842 Spain acknowledged the independence of South America.

Space forbids a detailed enumeration of the subsequent events of A. history; it has been a turbulent and even sanguinary history, though through it all can be discerned evidences unmistakable of enlightenment and progress. Names of tyrants like Rosas and Urquiza stand forth in dark prominence along with that of Lopez, the terrible dictator of Paraguay.

The exhausting war with Paraguay, which ended in 1870 with the execution of Lopez, was followed by a brief revolution in 1874, which so far has happily proved to be the last serious disturbance.

Recent Political and Financial Events. It is impossible for the English speaking reader to understand the political history of the republics on this continent established among the Latin race, without first purging his mind of the idea that republican institutions, especially when they are closely modelled on our own, are carried out in practice in any way resembling our methods. There is a radical difference in political capacity between the Latin and Anglo-Saxon races. The Anglo-Saxon started out with so much freedom that he valued the individual initiative above all things. But the Latin is a born bureaucrat; to a considerable extent he prefers to be governed rather than to take the trouble of governing himself.

Hence, even in a republican form of government, more power is given to the executive, so much, in fact, as to make it easy for an ambitious and resolute president to shade off his rule into a dictatorship.

President Celman was a heartily disliked man; he is said during his term of office to have amassed a private purse of $50,000,000 in gold, but it was not until the ruinous effects of his insane financial policy had been felt by every inhabitant of the republic, and gold had been driven up to 315 premium, that the army and navy at last rose against him, and after a brief but bloody struggle, in which however, for want of ammunition the insurgents were compelled to capitulate, and convinced by the desertion of his cabinet of the strength of the popular feeling against him, that he reluctantly resigned his office in 1890, Aug. 6. On the following day Vice President Pellegrini succeeded Celman as president for the unexpired term and gold at once fell from 315 to less than 200. The republic is now exercised over the choice of a successor to Pellegrini, and the latest indications point to the selection of General Mitre, but with an almost certainty of civil war in any case following the election.

The enormous area and fertility of the A. territory pointed the republic out as a tempting field for the investment of capital. The development of a country so full of promise seemed at once a worthy and a profitable object, and Europe extended both hands full of gold to A. Borrowing was so easy that it was largely indulged in, and real banking was inaugurated on a scale far in advance of the development of the country, and hundreds of new enterprises were started which could not become profitable for years. France, Germany, and Belgium invested enormous amounts of capital in A. undertakings and securities, while nearly $1,000,000,000 of British capital was, it is said, poured into the country. The stream of gold stimulated the hot imaginations of the inhabitants; they became reckless and talked of taking the primacy of the New World. But the awakening soon came. The drain of gold to pay the interest on these gigantic loans rapidly exhausted the currency; paper money was issued by hundreds of millions, and gold rose to a premium which cut down values by two-thirds, broke down the great historic banking house of the Barings, and threatened a world-wide financial panic.

ARMENIA, *ăr mē'ni-a:* a high tableland in the upper valleys of the Euphrates, Tigris, Aras, and Kur, 400 to 500 miles long, by nearly the same breadth. In ancient times an independent country, it repeatedly recovered its independence down to the middle ages, although with varying boundary. It is now, however, distributed between Russia, Turkey, and Persia, and stretches, in its utmost extent, from Asia Minor on the w. to the Caspian Sea on the e., and from the Caucasus on the n. to the Murad Su on the s. The interior consists mostly of pastoral plateaus, 2700 to 7000 feet above sea-level, crowned by conical heights or traversed by mountain chains, and culminating in Mount Ararat, 16,969 feet high. A chain of mountains, stretching from Ararat to the confluence of the two head waters of the Euphrates, divides A. into a northern half, containing the plateaus of Bayazid, Erzerum Kars, Akhalzikh, and Erivan; and a southern half, in which lies the plain of Murad Su, 4650 feet high at Mush. On the plateau of Erivan, the principal cones are Little Ararat, 12,840 feet high; Great Ararat, 17,212 feet, and Ala Göz (with three pinnacles), 13,436 feet. Surrounding Lake Van is the chain of the Ala Dagh, rising in Tura Jehn, to 13,750 feet. To the east of the valley of the Aras, the plateau of Kara Bagh attains a height of 11,000 feet. The mountain system of A. is mostly volcanic, in which trachyte and augite porphyry are mainly represented. The numerous cones are for the most part old craters. The volcanic nature of A. is still testified by its hot mineral springs, such as the sulphur springs of Tiflis, and by its earthquakes, which in 1840 wrought the complete destruction of a village of 200 houses on Mount Ararat, and in 1859, of the town of Erzerum. The Murad Su or East, and the Kara Su or West Euphrates, form the head-waters of the Euphrates; while the Shatt, rising to the south of Van Lake, and an arm of the Diarbekr, rising in the Alunjik Dagh, constitute the head waters of the Tigris. Other rivers are the Aras, the Kur, and the Tchorak. Of lakes, there is Van in Turkish, Goktcha or Sevan in Russian, and Urmia in Persian Armenia. A. is rich in metals, possessing mines of silver, lead, iron, arsenic, alum, rock-salt, and especially copper.

The climate is distinguished into a region of rains, with subtropical climate, embracing the valley of the Kur from Tiflis to the Caspian Sea and the valley of the Upper Tigris; a region of perpetual snow, which, in Ararat, except on the n.w. side, starts as high as 14,000 feet, but elsewhere descends some 3000 feet lower; and an intermediate region of very various grades, including the plateau of the frontier mountains and the plateau chains, to a height of 12,000 to 13,000 feet. This third zone ranges from a south European climate in the plain of the Kara Hissar to a mid-European climate, with harvest as late sometimes as August and September, in the mid slopes of the frontier mountains. The plateaus, volcanic, dry, and singularly bare of wood, have a very severe climate; the winters long and inclement; the summers short, very hot during the day, but always cold at night. The cold north winds against which A. has no protection, encountering the east and south winds, give rise to the storms that render the navigation of the Black Sea coast so dangerous. Much the richest belt of vegetation is the broad valley of the Aras; but the marshes produced by the many irrigating channels make this the most unhealthy part of A. There are, nevertheless, rich vineyards and extensive fields of cotton, tobacco, rice, hemp, and flax. The high tablelands are chiefly pastoral, though a little corn is also cultivated.

The ancients distinguished A. Major, the larger and eastern half, bordering on Media and the Caspian Sea, on Mesopotamia and Assyria, from A. Minor to the west of the Euphrates. Turkish A. comprises, besides the old A. Minor, the vilayets of Van, Bitlis, Dersim, Erzerum, as also parts of the vilayets of Diarbekr and Kharput. Russian A., formerly Persian, forms the n.e. part of old A. Major, and includes the governments of Erivan, Elizabetpol, and Kars, as also parts of the government of Tiflis. In this Russian portion of A. are situated the three old monasteries Etchmiadzin, seat of the patriarch of A., Haghpad, and Sanahine. Persia holds the s.e. corner of A. Major in the province of Azerbijan.

The Armenian is rather above middle stature, of darkish brown or yellow complexion, with black, straight hair, large nose, wide rather than high forehead. He is of quick, adaptive intelligence, and specially qualified for trade. The women are often handsome, with erect carriage, regular features, and fine dark eyes. Only a part of the Armenians live in A., most of them having been long dispersed all over the world. Yet is their essential national cohesion and indissolubility of national character almost as strong as is that of the Jews, though it has not had such unremitting fires of persecution to anneal it. They belong to the Iranian group of the Indo-Germanic family. The Armenians, at the present day, are to be found in almost all Turkish provinces; in Russia, Persia, and India; in the great commercial cities of the Mediterranean; in the Austrian empire; at London, Manchester, and other capitals of Western Europe, occupying posts as money-changers, bankers, and merchants, though also as artisans and porters. Their number in A. itself is estimated at 1,000,000 at the most; in Persia and adjacent territories, 100,000, in European Turkey, 400,000; in Russia, 500,000; in India, 5000; in Africa, 5000; in Transylvania, Hungary, and Galicia, 16,000. Their total number is calculated at not more than 2,500,000. Among the foreign invaders domesticated in A. are the Turks, mostly engaged in agriculture; the nomadic Kurds; in the s.e., the Tartars; Nestorians occupying the mountains of the Persian frontier, and speaking a Syriac dialect; Georgians, in the north. Greeks, Jews, and gypsies are also scattered throughout A. The Armenians themselves are at home mostly shepherds and tillers of the soil, living in low, mud-built cottages, or underground dwellings, very meagerly furnished. The houses are built at the side of or round a small courtyard, the rooms with no apertures for light except into the yard. The cattle sometimes house with the family. In summer, the roof is utilized for smoking, eating, and sleeping. Marriages are arranged by the parents, and the women have a place very subordinate to that of men. So late as 1856 a wife might not speak to her sister-in-law for the first six months after marriage; nor to her mother-in-law for nine months; nor to her father-in-law for eighteen months; and when at last she might speak, it must be in a whisper; and the whisper survives even to-day in a London Armenian family. The women, seldom the men, weave carpets, silk and woolen stuffs, stockings, horse-coverings, shawls, etc., but especially lace, for which gold and silver threads are obtained from Russia. Long centuries of oppression and almost servitude have very much sapped the military habits and spirit of the people, though in the last Russo-Turkish war many Armenians distinguished themselves by their bravery. A large number hold high places in the Russian army, among the most distinguished being **General Loris Melikoff.**

History.—The Armenians called themselves Haik, whence Hajastan, the Persian name for A., the name A. being conferred by the Medes, who applied this, the name of a single obscure clan, to the whole land. They have been known as a nation under this name since the time of Herodotus, and probably earlier. After being ruled by kings of their own, they fell successively under the Assyrian, Median, and Persian empires, retaining under the Persians their own princes and merely paying tribute to the Great King. Having, under Tigran or Tigranes, become the centre of an empire extending from the Orontes to the Caspian, A. was shattered by the Roman Lucullus, who penetrated to Artaxata at the foot of Ararat (69 B.C.). Shapur, the second of the Sassanid kings, conquered A., but under Diocletian it was recovered for Rome, and Tiridates the Great restored to his ancestral throne. This Tiridates having been converted to Christianity by St Gregory the Enlightener, A. became henceforward the bulwark of Christianity in Asia. Overrun by the Persian fire-worshippers and, after the fall of Persia, by the Mohammedan califs of Bagdad, sometimes supported, sometimes abandoned by the Byzantine emperors, and a prey to internal dissensions, A. yet re-emerged, in the 9th century, into a state of some importance.

In 885 A.D. Ashod I., of an old and powerful Armenian family, ascended the throne with the permission of the califs, and founded the third Armenian dynasty, that of the Bagratidæ, who claim descent from King David of Israel. Under them A. was prosperous. The magnificent ruins of their capital at Ani, between Etchmiadzin and Kars, still testify to the transitory splendor of their kingdom. In the 11th century divisions and internal strife again began to weaken the country, till at length the Greeks having murdered the last monarch of the Bagratidæ, seized a part of the kingdom, while the Turks and the Kurds made themselves masters of the rest- only one or two of the native princes maintaining a perilous independence. In 1242 the whole of A. Major was conquered by the Mongols. Leon VI., last king of A., was taken prisoner by the Saracens, 1375, and died at Paris in 1393. In 1472 the eastern part of A. became a Persian province. Afterward the western part fell into the hands of the Turkish sultan, Selim II.

The subsequent history of A. is that of devastation by the Mongols and the hosts of Timur, and of a long contest between the Ottoman sultans and Persia for the possession of that ancient kingdom. At length Russia approached from the north, welcomed by the Armenians as a suzerain preferable to either Turkey or Persia. Even before crossing the Caucasus and establishing herself in Georgia, Russia had interfered for the protection of the Armenian Christians. The Armenian patriarch Narses, too, had encouraged his people to look to Russia for protection. In 1827 the Czar wrested from Persia the whole of the upper valley of the Araxes, including Etchmiadzin. On the conclusion of peace between Russia and Turkey in 1829, when the Russians retired from Erzerum, a multitude of Armenian subjects of Turkey followed them, electing to settle in Russian territory. According to Professor Bryce, Mr. Creagh, and other travelers, the Armenians enjoy, under Russia, security of person and property, and protection for the honor of their families, such as was not vouchsafed to them by either Turkey or Persia. At the close of the Russo-Turkish war, by the Treaty of Berlin (1878) Ardahan and Kars were ceded to Russia, thereby adding 6687 sq. m. of territory, with a population of 271,151, to the district of Erivan already in Russian possession. During the negotiation of the Berlin Treaty, Great Britain entered into a secret compact with the sultan, guaranteeing Turkey the integrity of her Asiatic possessions on condition that Turkey should effect reforms in their administration, and protect the Armenians from the Kurds and the Circassians. Turkey has utterly disregarded her part in this compact. The invasion of the Kurds in 1882, under their chief Obeidullah, a vassal of Turkey, was especially destructive of life and property to the Armenians.

In Russia, where they have found protection since the time of Peter the Great, the Armenians have formed communities at St. Petersburg, Moscow, and in South Russia. The congregation of Armenian Mechitarists (q.v.) at Venice is celebrated. In London, Manchester, Amsterdam, and Marseilles are Armenian merchant houses. Armenians have been settled at Manchester since about 1840. In 1862 they had grown numerous enough to rent a private house for the celebration of divine worship. In 1870 they built an Armenian church, where divine service is conducted every Sunday according to the ritual of the (non-united) Armenian Church, whose 'Catholikos' has his seat at Etchmiadzin. The number of Armenians in Manchester is about 120, their 35 merchant firms negotiating the commerce between that city and Turkey, Persia and the Russian Caucasus. There is also a pretty numerous Armenian community in London, composed for the most part of Armenian families from India. There are, besides, one or two Armenian merchants at Liverpool, and almost always a few Armenians studying at Edinburgh and Oxford.

The Church.—The earliest authentic accounts of the introduction of Christianity into A. date from the apostolical exertions of St. Gregory (q.v.), who in the beginning of the 4th century converted King Tiridates and a large part of the people. In the same century Armenian Christians were found studying at Athens. Christianity was further confirmed in A. by Mesrob's translation of the Bible into the Armenian language in the 5th century. In the ecclesiastical controversy concerning the twofold nature of Christ, the Armenian Christians refused (491 A.D.) to accept the decisions of the Council of Chalcedon, and constituted themselves a separate church, which took the title of Gregorian from Gregory himself. For several centuries a spirit of scientific inquiry, especially in theology, manifested itself among them to a far wider extent than in the other eastern churches. Their greatest divine is Nerses of Klah, belonging to the 12th century. The Roman Catholic popes at various times, especially (1145, 1341, 1439), when the Armenians accepted the help of the West against the Mohammedans, tried to persuade them to recognize the papal supremacy, but only in 1439 was union with Rome accepted by the scattered members of the

Armenian Church outside of A., on the basis that, while assenting to the dogma of the two natures, they should retain their national and ritual peculiarities. The Armenian Church was thus split up into a Catholic or united, and a Schismatic or non-united party, fanatically opposed to each other. The dogma of the pope's infallibility induced for a time dissension among the united party. The theology of the Schismatic or non-united Armenians attributes only one nature to Christ, and holds that the Spirit proceeds from the Father alone; the latter doctrine, however, being held by it in common with the 'orthodox Greek Church,' although contrary to the theology of the western churches. With respect to the 'seven sacraments,' it entertains the peculiar notions that at baptism one must be sprinkled three times, and as often dipped; that confirmation is to be conjoined with baptism; that the Lord's Supper must be celebrated with pure wine and leavened bread; that the latter, before being handed round, must be dipped in the former; and that extreme unction is to be administered to ecclesiastics alone, and that immediately after (and not before) their death. It believes in the worship of saints, but not in purgatory. It exceeds the Greek Church in the number of its fasts, but has fewer religious festivals. Divine service is held in Turkey chiefly by night. Mass is celebrated in the old Armenian language, preaching is in the new. Its sacerdotal constitution differs little from the Greek. The head of the church, whose title is Catholicos, and to whom the Armenian patriarchs of Jerusalem and Constantinople are subordinate, resides at Etchmiadzin, a monastery near Erivan, the ecclesiastical metropolis of the Armenian nation since 302 A.D., and claiming to be the oldest monastic foundation in the world. Incorporated in this monastery is a seminary or college for the education of Armenian priests, attended by about eighty young men from all parts of Asia Minor and Persia. This school is supported by the monastic revenues, which, from landed property in Erivan and Georgia, and from the contributions of the Armenian Churches throughout the world, are said to amount to about £10,000 a year. Since 1830, Protestant missions, especially of the London Missionary Society, have been at work in A. The American Foreign Missions have thirty-three Protestant congregations in A., with more than 1800 members, many of them self-supporting, and supplied with native pastors.

Literature.—Previous to the introduction of Christianity by Gregory (300 A.D.), the Armenians had adhered to the Assyrian or Medo-Persian system of culture; but excepting a few old songs or ballads, no remains of that early period exist. After their conversion to Christianity, the Greek language and its literature soon became favorite objects of study, and many Greek authors were translated into Armenian. The earliest inscriptions are cuneiform. At a later period the Greek alphabet was used by the West, and Syriac by the East Armenians. In the beginning of the 5th century, St Mesrob, along with Sahak the Great, wrote the Armenian translation of the Bible, esteemed the highest model of classic style. The most flourishing period of Armenian literature extends from the 4th to the 14th century. The numerous Armenian theological writers and chroniclers of this era supply materials for a history of the East during the middle ages, which have hitherto been too much neglected. These Armenian writers generally copied the style of the later Greek and Byzantine authors. In the 14th century literature began to decline, and few remarkable works were afterward produced; but since their dispersion the Armenians have ever cherished their national literature. Translations of several Greek authors, made in the 5th century, have been partly preserved, and contain some writings of which the originals have been lost: namely, the Chronicle of Eusebius, the Discourses of Philo, Homilies by St Chrysostom, Severianus, Basil the Great, and Ephraem Syrus. Among philosophical and theological writers may be mentioned David, the translator and commentator of Aristotle, Esnik, and Joannes Ozniensis. The *Vitæ Sanctorum Calendarii Armeniaci* (Lives of Armenian Saints, 12 vols., Ven., 1814) contains many notices of the history of A. A considerable stirring of intellectual and even literary activity has recently manifested itself both at Erivan and in Constantinople. The Armenian belongs to the Indo-Germanic group of languages, and though it is usually regarded as an offshoot of the Iranic branch, recent scholars of eminence have maintained its right to rank as a distinct branch, intermediate between the Iranic and

European divisions of the group. It has certainly a very independent character, and has many peculiarities of structure. There are usually no distinctions of gender among nouns, and there are seven cases; while the verb has four conjugations and four tenses. In many respects the syntax of old Armenian, the language of literature, which is no longer a living tongue, resembles classical Greek; whereas the modern Armenian, split up into four dialects, contains many Persian and Turkish words. The Eastern dialect is, as might be expected, much purer than that of Constantinople. The language has great strength and flexibility; is consonantal and harsh to the ear. The alphabet, which has thirty-six characters, usually said to have been partly formed on the Greek model by St Mesrob, seems rather to have been adapted by him from the Palmyrene alphabet (see ALPHABET). There are grammars by Petermann (2d ed. 1872), Lauer (1869), and, of modern Armenian, Riggs (1856); and there are English-Armenian dictionaries by Aucher (1821) and Bedrossian (1879.)

Appended is the verse John iii. 16, in old ecclesiastical Armenian:

Զի այնպէս սիրեաց Աստուած զաշխարհս,
մինչեւ զՈրդին իւր միածին ետ. զի ամենայն
որ հաւատայ 'ի նա՝ մի կորիցէ, այլ ընկալցի
զկեանս յաւիտենականս.

See Saint-Martin, Mémoires sur l'Arménie (1818); Curzon, Armenia (1854); Haxthausen, Transcaucasia (Leip., 1856); Creagh, Armenians, Koords, and Turks (1880); Gatteyrias, L'Arménie (Paris, 1880); Troitzky, The Ritual of the Armenian Church (in Russian 1875); Hamachod, Chronological Succession of Armenian Patriarchs (London, 1865); Karekin, History of the Armenian Literature (in Armenian, Ven., 1865-68); The Divine Liturgy of the Armenian Church (trans. by S. C. Malan, 1870); Nève, L'Arménie chrétienne et sa littérature (Louvain, 1887).

ASHANTI, *a-shăn'-tē*, or ASHANTEE: a negro kingdom in western Africa, on the n. of the Gold coast, extending 5°–9° n. lat., and 0°–[illegible] w. long., and shut off from the seaboard by the British protectorate, 80 m. broad, of the Gold coast colony. It is hilly and well watered, but none too healthy, especially in the lower alluvial districts. The principal rivers are the Volta, Prah, and Assinee. Population estimated at from 1,000,000 to 3,000,000, of whom a fifth are warriors. The area of A. is computed at 70,000 sq. m. The country proper is one continuous forest, through which the only means of passage are by narrow paths, wholly impracticable for vehicles. The land in the neighborhood of the towns is carefully cultivated. The land is extremely fertile, producing maize, millet, rice, yams, tobacco, sugar, cocoa, the pine apple and other fine fruits, with gums, dye woods, and timber. The principal exports are gold dust, of which a considerable quantity is found, and palm oil. The natives are remarkable for their skill in certain articles of manufacture; their cottons are beautiful, as also their earthenware and sword blades. They are also goldsmiths of no mean skill, their works in beaten gold being of remarkable quality. All their art work shows clear traces of Moorish influence. Human sacrifice is practiced, the idea being to honor the dead by providing them with attendants. The great and little *adai* are periodical occasions for slaughter, and the customs following the death of a king are frightfully bloody. Polygamy is indulged in, the king being allowed 3,333 wives. The capital is Coomassie (q.v.). Kapando, near the Volta, is an important centre of trade. So is Salaga or Paraha, which, before the war of 1874, had an estimated population of [illegible]

The beginnings of the A. kingdom are obscure, but its traditions point to an emigration some hundreds of years ago from a region n. of the Kong mountains, probably caused by the spread of the Mohammedan empire of Timbuctoo. Our first positive glimpse of it is got in the year 1700, when Coomassie was made the capital by Osai Tutu, who conquered Akim, Assin, Gaman, Denkira, and other neighboring states, and became a sort of feudal sovereign over a large district. Osai Tutu was slain in 1731, but Osai Apoka, who succeeded him, made further conquest to the e. In 1800 Osai Tutu Quamina succeeded to the throne. He became involved in a war with the Fantis in 1806, and in the end their whole territory, including Cape Coast Castle, was ceded to the Ashantan empire. In 1817 a mission was sent to Coomassie which satisfied all the king's demands. **But subsequently** the crown took over the property of the defunct African company, and the English Gov. Sir Charles McCarthy espoused the cause of the Fantis. The English forces were disastrously routed at Essamaco near the Prah, and Sir Charles McCarthy slain. In the end the Ashantees were driven back permanently from the coast (1826). In 1873-4, in consequence of disputes arising in connection with the cession of the Dutch forts to Britain, they were again involved in a war with the same power; and an army under Sir Garnet Wolseley forced its way to the centre of the kingdom. After a severe battle at Amoaful, and several days' fighting, Coomassie was taken, 1874, Feb. 4, and burned on the 6th; and, though the rainy season had set in, the army returned in safety to the coast. The king of A. renounced all claims on the protectorate of Gold coast colony, promised to protect traders, and pay an indemnity of 50,000 oz. of gold to the queen. In 1876 hostilities took place between the Ashantis and the Juabins, when the latter were defeated, and sought refuge within the British protectorate. See works by Bowdich (1819; new ed. 1873), Brackenbury (1874), W. Reade (1874), Stanley (1874), and Weitbrecht (1875).

ASIA, *ā′ shĭ-a*: the largest of the divisions of the world, occupies the n. portion of the e. hemisphere in the form of a massive continent which extends beyond the Arctic circle, and by its s. peninsulas nearly reaches the equator. The origin of its name remains unknown. Herodotus failed to explain it; modern philology has also failed. It appears, however, most probable—the first elements of our geographical terminology having originated in Greece—that A. was a local name given to the plains of Ephesus, and that this name was gradually extended to the Anatolian peninsula, and later on to the whole of the continent.

Viewed in their broad features, Europe and A. constitute but one continent, extending from w. to e., and having the shape of an immense triangle, the angles of which are Spain in the w., the peninsula of the Tchuktchis in the n.e., and that of Malacca in the s.e. The Arctic ocean in the n., the Pacific in the e., and the Indian ocean, continued by its narrow gulf, the Red sea, which nearly reaches the Mediterranean, inclose the continent of A. This immense mass of land touches the lat. of 77° 34′ n. in Cape Tcheyuskin, while Cape Burros, at the extremity of the peninsula of Malacca, and 5.350 m. distant from the former, falls short by 1° 15′ of reaching the equator. Cape Baba, in Asia Minor, advances as far w. as the 26° of long., and the utmost n.e. extremity of A., East Cape, 5,990 m. distant from Cape Baba, protrudes to the 190° (12 h. 40 m.) to the e. of Greenwich. The area covered by A. and its islands is 17,255,890 sq. m.; that is, almost exactly one-third of the land-surface of the globe (32 per cent.). It is nearly equal to the surface of both Americas together, by one half larger than that of Africa, and more than four times larger than that of Europe.

Boundaries. Neither by its geographical features, nor by its climate, vegetation, and animals, still less by the ethnographical features of its inhabitants and their history, can A. be sharply separated from Europe. The physical features of both continents show a manifold interdependence; and however pronounced the individuality of Europe in the w., it melts into A. in its e. parts; while throughout its history Europe has been influenced by A. in a thousand ways. Our races have been mixed with those of A.; in A. our civilization, our religions, our political and social institutions have had their origin; and ever since Europe made an independent start in history, it has never ceased to feel the influence of A. Geographically speaking, Europe is a mere appendix to A., and no exact geographical delimitation of the two continents is possible. The low Urals are not even an administrative frontier; European Russia extends over their e. slope. Farther s., the dry steppes of A. penetrate into Europe and pass indistinguishably into the prairies of Russia. Caucasus is surely Asiatic in character; but, to separate it from Europe, one must resort to the old dried-up channel of the two Manytch rivers, which at a geologically recent epoch connected the Black sea with the Caspian. As to Asia Minor—also purely Asiatic in structure and inhabitants—it so closely approaches Europe that the sea of Marmora and its narrow river-like straits seem almost an artificial boundary, while the islands surrounding Asia Minor mingle with those which continue Greece to the e., and the Anatolian plateau seems to be continued in the Balkan peninsula.

The line of separation from Africa is better defined by the narrow Red sea. But Arabia participates so largely in the physical features of Africa that it is in a sense intermediate between the two continents.

In the s.e., the numberless islands of the Dutch Indies—relics of a sunken continent—appear as a bridge toward Australia; and although a boundary between Australia and A. has been drawn through the Timor sea, or rather between the islands Bali and Lombok, in the Sunda archipelago, still it is a boundary only in a limited sense; it only separates two faunas.

In the extreme n.e., A. sends out a peninsula to meet the n. w. extremity of America, from which it is separated only by a shallow and narrow channel, Behring strait. Plants, animals, and men freely migrated over this ferry; while the geographer sees in the two peninsulas a line of connection between the two great plateaus of the Old and New World.

Peninsulas.—Although the coasts of A. are much more indented by gulfs and peninsulas than those of Africa or America, still it stands in this respect much behind Europe, and has 1 m. of coast line for every [illegible] sq. m. of its area, that is, three times less than Europe; besides, about one-fifth of its shores is washed by the ice-bound Arctic ocean (9,900 m. out of 51,000), or by the foggy and icy sea of Okhotsk, where navigation is possible only for a few months, or even weeks, in each year. Its peninsulas comprise nearly one fifth of its surface (19 per cent., as against 28 in Europe), but they partake of the massive structure of the continent; they are massive too, and, as a rule, little indented. Three immense offsets continue the continent of A. into more tropical lat. Arabia, India, and the Indo-Chinese peninsula—and some likeness exists between them and the three s. peninsulas of Europe—Spain, Italy, and the Balkan peninsula, surrounded by its archipelago of hundreds of islands. Asia Minor protrudes between the Black sea and the Mediterranean as a huge mass of tableland broken by narrow gulfs in its w. parts. In the Pacific there are only three large peninsulas—Corea, Kamchatka, and that of the Tchuktchis—the whole of the Pacific coast having the shape of wide curves turning their convexity to the sea, and indented by but a few gulfs. The flat, ever frozen, uninhabitable peninsulas of the Arctic ocean, Taimyr and Yalmal, could play no part in the the growth of civilization.

Seas, Coasts.—The early inhabitants of A. had no Mediterranean sea to serve as a highway of communication between these peninsulas. The gulfs which separate them—the Arabian sea and the bay of Bengal—are wide, open divisions of the Indian ocean. The narrow, elongated Red sea penetrates between the dry, stony, and barren lands of Africa and Arabia; and only now, since it has been brought into communication with the Mediterranean by the Suez Canal, has it become an important channel of traffic. The Persian gulf, inclosed between the deserts of Arabia and the mountains of Persia, is borded by regions scarcely inhabited. A.'s true Mediterranean is on the e., where several archipelagoes, like so many chains of islands, mark off from the ocean the Southern and Eastern China seas, whose gulf of Siam and Tonkin, and especially the Yellow sea with the gulf of Pechili, penetrate into the continent. Those gulfs, since the dawn of history, have promoted the development of marine traffic in these regions, and would have done so still more but for the dreadful typhoons, the constant danger of these seas. The sea of Japan is less favored by climate and currents, and it has on its w. the inhospitable of Northern Manchuria, where Russia is trying to establish a maritime centre at Peter the Great Bay. The sea of Okhotsk and that of Behring, although possessing fine gulfs (Ghizhiga, Anadyr), have no importance for the maritime traffic of nations. Still less the Arctic ocean, with its wide estuaries and bays, and the Kara sea, through which ships find a passage amid the broken ice-crust for only a few weeks in the year.

Islands.—The islands of A. are very numerous, and cover an aggregate of no less than 1,023,000 sq. m. (nearly 6 per cent. of A.'s surface). The coasts of Asia Minor are dotted with islands, of which the Sporades connect it with Greece. Cyprus was, from remote antiquity, a centre of civilization, so also Ceylon. The Laccadives and Maldives are mere coral atolls rising amidst the Indian Ocean, and sheltering some 200,000 inhabitants. The islands of E. A. are much more important. A narrow strip of islands, some large like Sumatra (177,000 sq. m.) and Java, others mere reefs, extend in a wide semi-circle, under the name of Andaman and Sunda islands, from Burmah to Australia, separating the Indian ocean from the shallow Java sea and the Malay archipelago. This last—an immense volcanic region inhabited by the Malay race—comprises the huge Borneo, the branched Celebes, and the numberless small islands of the Moluccas, the Philippines, etc., connected on the n.w. with the Chinese coast by the island of Formosa. This latter, as well as Hainan, may be properly considered as part of the Chinese mainland. The Loo-choo (Liukiu) islands and the Japanese archipelago, the latter joining Kamchatka by the Kuriles, continue farther n.e. this chain of islands which border the coasts of A. Saghalin is so closely attached to the continent that it was long regarded as a peninsula. In the Arctic ocean, the small Bear islands, the archipelago of the Liakhof (New Siberia), and the Long islands, as also those of the Kara sea, are lost amidst ice-fields and are but occasionally visited by whalers. Kellett's or Wrangel's Land, off the peninsula of the Tchuktchis, was thoroughly explored by Lieut. R. M. Berry, U. S. Navy.

Orography.—A. is at once the largest and the highest of all continents. Not only has it a number of mountains which exceed by 5,000 and 6,000 ft. the loftiest summits of the Andes; it has also the highest and the most extensive plateaus. If the whole mass of its mountains and plateaus were uniformly spread over its surface, the continent would rise no less than 2,885 ft. above the sea, while

Africa and North America would respectively reach only 2,165 and 1,950 feet.

High plateaus are the predominant feature of A.'s orographical structure: they occupy nearly two fifths of its area. One of them—that of w. A., including Anatolia, Armenia, and Iran—extends in a south-easterly direction from the Black sea to the valley of the Indus; while the other—the high plateau of e. A., still loftier and much more extensive—stretches n.e. from the Himalayas to the n.e. extremity of A., resembling in shape a South America pointing n.e., and meeting at Behring Strait the n.w. extremity of the high plateau of North America. These vast regions, mostly unfit for agriculture and human settlement, poorly watered over wide areas, and assuming there the character of dry deserts, divide A. into two parts—the lowlands of Siberia and the Aral-Caspian depression to the n. of the plateau-girdle, and the lowlands of Mesopotamia, India and China to the s. These could enter into only occasional communication across the thinly peopled plateaus, and they have followed quite independent lines of development. The s. lowlands are themselves separated into three distinct parts, which have developed independently, without enjoying that continuous mutual intercourse with constitutes the distinctive feature of European civilization.

(1) *Plateau of Eastern Asia.* The high plateau of e. A., which stretches for [illegible] m. to the n.e. from the Himalayas, occupies more than one fifth of the superficies of A. Its surface is not quiet flat, as the rather inappropriate orographical name of 'plateau' might suggest. It has its depressions; it has also on its n.w. borders several broad trenches which are cut in its mass, like gigantic railway trenches leading with an imperceptible gradient from the lowlands to the heights of the plateau. For many consecutive geological periods these trenches were either channels for the drainage of the waters discharged by the plateau, or else gulfs of the seas which surrounded it, so that now their banks, water and glacier worn, appear like chains of mountains to the traveller who follows their flat bottoms. The plateau has also mountain-ridges rising several thousand feet above its surface, and high border-ridges. But its depressions do not sink to the level of the lowlands, their lowest parts being still two or three thousand feet above the sea; while the chains of mountains, although rising to high absolute altitudes, are still relatively low, their bases on the plateau being at a level of several thousand feet above the sea. They do not display the diversified aspect usually characteristic of alpine regions intersected by deep fertile valleys, and unvaried monotony—monotony of orographical features, climate, flora and fauna—remains the distinctive feature of the plateau over immense distances. For thousands of miles the traveller finds the same broad and open valleys, the same harsh climate, the same species of plants and animals, the same unfitness for agriculture.

The highest parts of the East Asian plateau are in Tibet, where it has a width of [illegible] m. from w. to e., and an average height of 18,000 ft. Even the bottoms of its lowest valleys are at a higher altitude than the summit of Mt. Blanc, and only cattle-breeding is possible in these high, cold, dry valleys. The highest plateau of the earth is girdled by the highest chain of mountains, the Himalayas—a typical 'border ridge' which has one foot on the high plateau, and the other in valleys ten to fifteen thousand feet deeper, where the palm and vine grow freely. This immense chain of snow-clad peaks, which in Europe would reach from Gibraltar to Greece, raises its lofty summits above [illegible] ft; its lowest passes are [illegible] ft. high, and Gaurisankar or Mt. Everest—the highest mountain of the globe—has its snow-cap at a height of [illegible] ft., that is 5½ m. above the sea. A series of chains separated from the Himalayas by high longitudinal valleys run parallel to them in the n., and of these the Karakorum mountains rise high above the snow-line; their loftiest peak, the Dapsang, is 28,700 ft. high. In the e. the plateau of Tibet is bordered by the snow-clad mountains through which the great rivers of China, Burmah and Siam find their way to the lowlands. They are still very little known.

In the n.w., the Tibet plateau joins another much smaller, but very high plateau—that of Pamir ('the roof of the world')—which covers an area of [illegible] sq. m. Several chains of mountains running n.e. diversify its surface, but still the travellers crossing it need not descend to a level lower than from [illegible] to [illegible] ft. until they have crossed its n. border-ridge, the Alai mountains, whose peak, Kauffmann ([illegible] ft.), exceeds twice the highest summit of the Pyrenees. The Tagarma peak, in E. Pamir, reaches a height of [illegible] ft. Farther

n. and n.e. of the Pamir, a wide, intricate complex of several high chains, running mostly from w.s.w. to e.n.e., with several ridges shooting from them to the n.w., covers an aggregate area nearly as large as Germany. These mountains are known under the general name of Tian-shan (q.v.). The great Khan-tengri rises there to 24,000 ft., and most of the Tian-shan ridges are snow-clad; even the outer ridges raise their summits to 15,000 or 16,000 ft.—that is, above the upper limits of tree vegetation, while some of their deep, fertile valleys have been transformed into veritable gardens and granaries by means of irrigation.

(2) *Central Asian Depression.* In the n., the plateau of Tibet is bordered by a succession of lofty chains (Kuen-lun, Altyn-tagh, Nan-shan), reaching more than 20,000 ft. in their highest parts. These chains separate it from the great central depression which is occupied by Eastern Turkestan in the w., and by the Desert of Gobi in the e. This great depression—including the Han-hai, or 'dried-up sea,' of the basin of the Tarim—must be considered, however, only as a lower terrace of the great plateau of e. A. It has an altitude of from 3,000 to 4,000 ft. in the w., and 2,200 ft. in its lowest part—the depression of Lake Lob-nor. It has no outlet to the sea—not even to Lake Aral or the Caspian; the winds which might bring the moisture of the ocean are deprived of it in crossing the higher plateaus and border ridges which surround it, and this immense bottom—an immense interior sea—is rapidly drying up, all through the historical period it has continued to dry up, till Lob-nor, which covers an area four times as large as that of the lake of Geneva, has become now but a wide marsh, with a maximum depth of some 15 ft.—a small remnant of a much larger sea which existed at the dawn of history, and in whose rapid desiccation we probably must look for one of the causes which impelled the Huns and the Mongols to their great migrations toward the w. Human settlements, secluded from the rest of the continent, and rarely visited now by a few caravans, are scattered only in the upper parts of the tributaries of the Tarim, where the water of a few and scanty rivers may maintain life; but they were much more numerous before, as is testified by ruins of great cities now buried under the drifting sands. In the E. Gobi, where the s.e. monsoons of the Pacific during the summer and the n.w. winds from Siberia during the winter still bring some moisture, the gravelly soil is covered with grass for a few months each year; but in the w., man must sustain a hard struggle against the moving sands raised by storms in the air, more dreaded than the worst snow-storms of the far n. In the s.e., toward the chains of Ala-shan and In-shan the wild horse and the wild camel—ancestors of our domesticated breeds—find their last refuge on lonely pastures scarcely ever visited by man.

(3) *Northern Part of the Great Plateau.* The dry and barren ridge called Eastern Tian-shan, and two other ridges running n.w., separate the Han-hai depression of Central Asia from the trenches of Urumtsi and Urungu, which descend w. to the lowlands of Siberia toward Lakes Balkhash and Zaisan. Beyond the great depression the plateau rises again, and reaches an average height of from 4,000 to more than 5,000 ft. in the upper parts of the Yenisei and Selenga, and about 2,000 ft. in its lowest part—the small depression of Lake Ubsa-nor. The Ektagh (or Great Altai) in the w., the Khangai and the Yablonovoi ridge farther e., separate this upper terrace of the plateau from the lower terrace of Eastern Turkestan and Gobi. It would seem that the Yablonovoi ridge is continued farther s.w. by a succession of ridges which probably join the Tian-shan Pelan (Eastern Tian-shan), and which separate the higher Siberian terraces of the plateaus from the lower terrace of the Gobi. This last has in the e. its border ridge—the Great Khingan (4,000 to 5,000 ft.)—which is a continuation of the mountains of the middle Hoang-ho; it is pierced by the Amur below Albazin and in the n.e. joins the Stanovoi or Okhotsk coast-ridge. See SIBERIA.

In the n.w., the plateau is bordered by the snow-clad Sailughem ridge of the Altai (8,000 to 9,000 ft.), which appears as a continuation of the Tian-shan and the Ala-tau, and which is continued farther n.e. by the W. Sayans. The wide indentation, however, occupied in its deepest parts by Lake Baikal and very much like the indentation made by the Caspian in the plateau of W. A., breaks the continuity of the border ridge. This last reappears again to the e. of the Siberian lake as a huge wall known under the names of Khamar-daban, Barguzin, Muya and Patom mountains. They rise from 6,000 to 8,000 ft. above the sea, reaching the snow-line only at the Munku-Sardyk (11,900 ft.), and presenting their steepest slopes toward

Siberia, while their inner base lies on a plateau 3,500 to 4,500 ft. high. This immense wall is pierced by the broad trench-like valleys of the Selenga and its tributary the Uda, which are respectively the two great highways from Lake Baikal to Mongolia and the Upper Amur. A broad zone of alpine tracts more than 150 m. wide and 2,000 m. long—the Altai, the Kuznetskiy Ala-tau, the Baikal, Lena, Olekma, and Vitim mountains—fringes this plateau in the w., from Lake Zaisan to the far n.e. of Siberia. It consists of a series of short chains, mostly running n.e., with numerous spurs, and intersected by deep and narrow valleys, clothed with forests and rich in auriferous deposits. A like succession of alpine tracts, although narrower, follows the s.e. edge of the plateau in China and Manchuria. As to the plateau itself (whose surface is diversified by several chains rising above its level), its broad, flat, and open valleys, unfit for agriculture in consequence of their altitude, have none of the dryness of the plateau of Tibet. They are covered with a rich grass-vegetation, and are frequented by shepherds; while the slopes of the hills, thickly clothed with forests, are rich hunting grounds. Farther n. (in the Vitim plateau, the Utchur, etc.) the surface becomes very marshy, and the vegetation still poorer; its height does not now exceed 3,500 ft., and it becomes narrower. Its n.e. extremity—the abode of the Tchuktchis—is but very little known.

(4) *The Plateau of Western Asia.* Several parallel chains of mountains, reaching 24,000 ft. in their highest parts, and running n.e. to s.w. (the Hindu Kush and its parallel chains), connect the great plateau of e. with that of w. A., which may be subdivided into three parts: Iran, Armenia, and Asia Minor. The plateau of Iran (425,000 sq. m.) is bordered in the n.e. by the border ridges of the Paropamisus, the Kopet-dagh, which presents its steep, stony slopes to the Turcoman steppes, and the Elburz (with its peak Demavend 20,100 ft. high), which describes a curve around the s. Caspian shore; in the e. it is fringed by several snow-clad chains, which separate the stony plateaus of Afghanistan and Beluchistan from the fertile valley of the Indus; and in the s.w. it falls by several steep terraces toward the Persian gulf and its continuation, the valley of the Tigris and Euphrates. The lowest parts of the Iran plateau, in the valley of the Helmand, which discharges its water into the rapidly desiccating Lake Hamun, are 1,500 ft. above the sea, and although fertile in the s.e., it assumes the character of a wide salt desert toward the Caspian sea. There it joins the plateau of Armenia, bounded on the n. by the Anti-Caucasus, and in the s. by the Kurdistan mountains. The great salt lakes Van and Urmia have their levels at altitudes of more than 5,000 ft.; and Mt. Ararat, which rises on the plateau, reaches a height of 16,969 ft. Farther w., the plateau of Armenia meets that of Asia Minor, all three together making a wide plateau, elongated toward the n.w., and having a length of 2,500 m., and a width from 700 to 1800 m. Several chains of mountains running n.e. and n.w., and reaching more than 10,000 ft. in their loftiest summits, intersect the plateau of Asia Minor, which is bordered by the Taurus mountains on its Mediterranean coasts, and the Pontic mountains on the Black sea shore.

(5) *Separate Chains of Mountains.* The hilly tracts of A. are not confined to the plateaus and their border ridges. The Caucasus, an immense wall of snow-clad mountains, stretches n.w. to s.e. for nearly 800 m. along the border of the Armenian plateau, from which it is separated by the broad valley of the Kura. It reaches 18,500 ft. in the Caucasus (Elburz peak). The Urals, from 2,000 to 4,000 ft. high, which separate Europe from A., are a broad belt of hilly tracts, stretching as a whole from n. to s. Farther e. the Karatau and the Tarbagatai, as also the Verkhoyansk ridge in the far n., strike off from the alpine tracts which fringe the plateau, and have a direction perpendicular to them, while the Byrranga hills diversify the monotony of the tundras of the Taimyr peninsula. The Yeniseisk mountains, consisting of several chains running s.w. to n.e., contain rich deposits of gold dust. Several chains, little known, and some of them volcanic, fill up the peninsula of Kamchatka. A number of parallel chains, 5,000 to 7,000 ft. high (the Ilkhuri-alin, the Bureya mountains, [illegible] and Tartar) run from the gulf of Pechili to the sea of Okhotsk, and are continued in Sakhalin island; while other chains having the same direction form an outer submarine wall of A. in Corea, the Japan archipelago and the Kuriles. The Nan-ling, Tayu-ling, and other smaller chains having also the same n.e. direction, cross s. China; and some other chains belonging to the same system of parallel plications of the earth crust are seen in the islands of Formosa and Loo-choo (Liu-kiu). The Seravak chain of Borneo, con-

tinued n.e. in the Palawan islands, as also the mountains of Celebes, have the same direction; while the mountains of Sumatra and Malacca assume the perpendicular n.w. direction which prevails in s.w. A. A range of lofty volcanoes rises steeply from the very depths of the ocean in the islands of the Java sea. The real orography of Burmah and Siam is yet hardly known.

The interior of the Indian peninsula is again occupied by the wide plateau of the Deccan, having an average height of from 1,500 to 3,000 ft., bordered in the w. by the w. Ghats (8,760 ft. high in Nila Ghiri peak) and the Cardamum mountains, and in the e. by the much lower and broader e. Ghats. The Pedrotallagalla peak in Ceylon rises 8,330 ft. high. The immense plateaus of Arabia, covered with sand deserts interspersed with a few fertile regions, rise to altitudes of from 3,500 to 4,500 ft., and are intersected by several little known chains of hills. Their s.e. border ridge (the Hadramaut) reaches nearly 7,000 ft. in its highest summits, and the n.w. border ridges (the Lebanon and Anti Lebanon) have summits nearly 10,000 ft. high; while in the deep valleys of the Jordan the Dead Sea is sunk to a level of 1,187 ft. below that of the ocean.

(6) *Lowlands, Plains.*—The whole of n.w. A. is occupied by an immense lowland (Siberia) which joins in the s. the wide Aral Caspian depression. This lowland, whose level is less than 500 or 600 ft., does not reach the outer borders of the above mentioned alpine regions which fringe the great plateau of e. A. It is separated from them by a belt of elevated, undulating plains rising to a level of from 1,000 to 1,500 ft., the limits of which may be roughly indicated by a line traced from Merv to Tomsk, and thence to Verkhoyansk. These plains, which assume the character of dry steppes toward the s., are, as a whole, highly suitable for agriculture and cattle breeding. Not so the lowlands proper, which bear unmistakable traces of having emerged from the sea during the Post Pliocene period. In the Aral Caspian depression they often have the character of sandy deserts, and can be cultivated only where there is a belt of fertile Loess (q.v.) at the base of the mountains, and the streams issuing from the hilly regions yield sufficient water for irrigation. On the n. coast of the Caspian, the Aral Caspian depression descends even below the level of the sea; while the dry plateau of Ust Urt rises to an average height of about 1,000 ft. above the sea. The s. parts of w. Siberia are a perfect granary, and are rapidly being colonized; but beyond the 56° or 57° of lat., the lowland assumes the character of marshy forests, almost totally unsuitable for settlements, and, farther n., that of a treeless, barren, and ever frozen tundra. A like belt of elevated plains, succeeded by one of lowland, runs along the great plateau on its s.e. edge, and those parts of the plains which are covered in China with loess, as also those of Manchuria (to the w. of the Pribrezhnyi ridge), are the abodes of a dense agricultural population. In the Indo-Chinese peninsula, the lowlands are limited to Tonkin, Cambodia, and the lower Menam and Irawadi, where they are fertile, but often marshy.

The wide space between the great plateaus of w. and e. A., and that of the Deccan, watered by the Indus and the Ganges, is again an immense lowland, covering no less than 500,000 sq. m., and supplying the means of existence to 125,000,000 inhabitants. Its w. part suffers much from want of irrigation, but artificial canalization rapidly conquers the desert (see India). Another wide lowland, Mesopotamia, or the broad valley of the Tigris and Euphrates, was a cradle of civilization from the remotest antiquity. Lastly, the fertile lowlands in the n. of the Caucasus are being rapidly colonized by Russian agriculturists.

Rivers.—It is easy to perceive from the above rapid sketch how much the orographical structure of A. favors the development of very great rivers, whose drainage basins cover immense areas. Only three rivers, the Mississippi, the Amazon, and the Nile, surpass the largest rivers of A., the Yenisei and the Yang-tse-kiang, both as to length and drainage areas; but owing to the scarcity of rain over large parts of A., the amount of water carried down by the largest rivers is, as a rule, disproportionately small as compared with American or European rivers. The predominant feature of A.'s hydrography is the existence of very wide areas having no outlet to the sea. On the great plateau of e. A. the region which has no outlet from the plateau and whose water does not reach even Lake Aral or the Caspian (the Han-hai and the Gobi) covers a surface larger than that of Spain, France, and Germany together. It is watered only by the Tarim, which supplies some irrigation works in its upper parts, and enters the rapidly drying marshes of the Lob-nor. This area is steadily increasing, and since 1852 we have had to add to it the drainage area (as large as England and Wales) of the Keruleñ, which empties into Dalai nor, but no longer reaches the Arguñ, a tributary of the Amur. The Ulyasutai river and the Tchagan-togoi now no longer reach Lake Balkhash; and the Urungu, which obviously joined the Upper Irtysh at no very remote date, empties into a lake separated from the Black Irtysh by a low isthmus not five miles wide. If we add, however, to this already wide area the drainage basins of Lake Balkhash with its tributaries, the Ili and other smaller rivers; the great Lake Aral, with the Syr-daria (Jaxartes) and Amu-daria (Oxus), as also the numerous rivers which flow toward it or its tributaries, but are desiccated by evaporation before reaching them; and finally the the Caspian with its tributaries, the Volga, Ural, Kura, and Terek, we find an immense surface of more than 4,000,000 sq. m.—that is, much larger than Europe—which has no outlet to the ocean. Four inland drainage areas more must be added to the above: the plateaus of Iran and Armenia, two separate areas in Arabia, and one in Asia Minor, the whole representing a surface of 5,567,000 square miles.

The drainage area of the Arctic ocean comes next. It includes all the lowlands of Siberia, its plains, and large portions of the great plateau. The chief rivers flowing n. to the Arctic ocean are the Obi, with the Irtysh; the Yenisei, with its great tributary the Angara, which brings to it the waters of Lake Baikal, itself fed by the Selenga, the Upper Angara, and hundreds of small streams; and finally the Lena, with its great tributaries, the Vitim, Olekma, Vilui, and Aldan. Owing to their great tributaries, and still more to the fact that each of them is formed by two great rivers of nearly equal importance, they permit navigation to be carried on, not only n. and s., but also w. and e., over wide distances in Siberia (q.v.).

Three great rivers enter the Pacific, and all three are navigable for thousands of miles: the Amur, composed of the Arguñ and Shilka, and receiving the Sungari (a great artery of navigation in Manchuria), the Usuri, and the Zeya; the Hoang-ho; and the Yang-tse-kiang, the last two having their rise on the plateau of Tibet. They permit freighted boats to penetrate from the seacoast to the very heart of China. The Cambodia or Mekhong, the Salwen, and the Irawadi, rising in these parts of the high plateau, water the Indo-Chinese peninsula. Rising at the same height, the Indus and the Brahmaputra flow through a high valley in opposite directions along the n. base of the Himalayas, until both pierce the gigantic ridge at its opposite ends and find their way, the former to the lowlands of the Punjab, where it is joined by the Sutlej, and the latter to Assam and Bengal, where it joins the great river of India, the Ganges, before entering the gulf of Bengal by a great number of branches forming an immense delta. The plateau of the Deccan is watered by the Godavari and Kistna flowing e., the Narbada, flowing w., and a great number of smaller streams. The Tigris and Euphrates, both rising in the high plateau of Armenia, flow parallel to each other, bringing life to the valley of Mesopotamia, and join before entering the Persian gulf. Arabia proper has no rivers worthy of notice; only the wadys, or dry channels of former rivers, show that there was a time, not far distant, when it was well watered. The Irmak, which enters the Black sea, is the only river worthy of notice in Asia Minor. In Caucasus, the Rion and Kuban enter the Black sea, and the Kura and Terek the Caspian.

Inland Seas, Lakes.—Numberless lakes are scattered all over A. A succession of great lakes, or rather inland seas, are situated all along the n. slope of the high plateaus of w. and c. A., their levels becoming higher as we advance farther e. The Caspian, 800 m. long and 270 wide, is an immense sea, much larger than the Black sea, but its level is 85 ft. below the level of the ocean. Lake Aral, nearly as wide as the [illegible] sea, has its level 157 ft. above the ocean. Farther e. we have Lake Balkhash (900 ft.), Zaisan (1,300 ft.), and Lake Baikal (1,560 ft.). Numberless smaller lakes and ponds, all rapidly drying up, break the surface of the steppes and lowlands of Siberia, which [illegible] the low grounds of w. Siberia. Many large lakes appear on the plateau of Tibet (Tengri nor, Kuku nor), and on the high plateau of the [illegible] (Ubsa nor, [illegible], Kossogol, etc.), and smaller lakes and ponds are so numerous that maps on a large scale are literally dotted with them. The same is true with regard to the plateaus of the Deccan, Armenia, and Asia Minor. Three large lakes (Urmia, Van, and Goktcha) and many smaller ones lie on the highest part of the Armenian plateau. On the Pacific slope of the great plateau, the great rivers of China, and the Amur with its tributaries, have along their lower courses some large and very many small lakes, which seem like reservoirs where the immense quantities of water carried down by these rivers during the summer rains is stored. The lakes Tun-ting, Po-yang, and Tai-hu, along the Yang-tse-kiang; those along the former course of the lower Hoang-ho; and Lakes Kizi and Hangka on the Amur and Usuri, as well as numberless smaller lakes, fall under this category.

Geology. The time has not yet come when the geological history of A. can be written in full. It appears, however, that the great plateaus, built up of crystalline unstratified rocks, granites, granitites, syenites, and diorites, as well as of gneisses, talc, and mica-schists, clay slates and limestones, which all belong to the Archaean formation (Huronian, Laurentian, Silurian, and partly Devonian), have not been submerged by the sea since the Devonian epoch. The higher terrace of the plateau of Pamir and the plateaus of the Selenga and Vitim are built up only of Huronian and Laurentian azoic schists; and even Silurian deposits—widely spread on the plains—are doubtful on the plateaus. Their upheaval dates from an earlier age, and they rose above the sea during the Devonian epoch, while parts, at least, of the lower terrace were under the sea at that period. During the Jurassic period, immense fresh-water basins covered the surface of those plateaus and have left their traces in Jurassic coal beds, which are found as well in the depressions of the plateaus as in those of the lowlands. Carboniferous deposits are met with in Turkestan, India, and w. A.; while in e. A. the numerous coal beds of Manchuria, China, and the archipelagoes are all Jurassic. During the Cretaceous and Tertiary period an immense mediterranean sea spread over the surface of the plateau, and penetrating through the Zungarian trench, it covered the Han-hai. This interior sea persisted until the earlier parts of the Tertiary epoch, when new upheavals broke its connection with the Tertiary seas which covered what are now plains and lowlands. Thick layers of Tertiary deposits, but mostly having the characters of coast deposits (conglomerates), are found at great heights in the alpine tracts which fringe the plateau. These chains of mountains are of the same ancient geological origin. They rose above the Carboniferous, Triassic, Chalk and Jurassic seas which covered what are now the lowlands and lower terraces of A.; but their upheaval has continued throughout these epochs, so that in the outer chains of A. we see Carboniferous and younger deposits up to Tertiary, lifted to great heights. It appears, however, that while the ancient upheavals dating from the azoic epoch had chiefly the direction from s.w. to n.e., and were mainly due to granites, granitites, and syenites, the more recent upheavals of the Tertiary period have had a direction from n.w. to s.e., and were due to augitic rocks, diorites, melaphyres, and so on. They modified, of course, to a great extent the relief of A., and raised to immense heights the Tertiary deposits, especially in the Himalayas.

What are now the lowlands of A. must have been widely submerged by the seas of the Tertiary period, as also those of the Quaternary (post-pliocene) period. The Tertiary sea of e. A. was broken by chains of mountains into many separate parts, straits and lagoons, while that of w. A. extended widely over what is now s. Russia. The sea of the Quaternary period (glacial and post-glacial) no longer reached the plains of central A., not even the higher plains of Siberia. It covered the whole of the lowlands of n.w. Siberia, as far as the 50° of lat., a broad gulf probably connecting the Arctic ocean with the Aral-Caspian sea; but there are no traces of it on the high plains of e. Siberia, which were only intersected by several narrow elongated gulfs of the ocean. The moistness that thus ensued permitted glaciers, which are wanting now throughout the middle parts of e. Siberia and Mongolia, freely to accumulate, so that the whole of the upper plateau and its border ridges were under a mighty ice-cap. Immense glaciers, like those of the Alps and Jura, covered also the alpine regions. How far glaciation extended over the plateau of Tibet and in China still remains unsettled. In Turkestan and Siberia immense accumulations of loess fringe the alpine regions, while in China they cover immense tracts, and are the most fertile regions of Asia.

Many important changes in the distribution of land and water have been going on in A. since the glacial period, and even during historic times. Since the Aral-Caspian sea became isolated from the ocean, its desiccation, as well as that of the numberless lakes which dotted the surface of A. during the lacustrine post-glacial period, has proceeded with a rapidity which may be guessed from the very rapid rate at which the process has been observed to go on in Siberia during the last hundred years. All A. bears unmistakable traces of having been covered during the Lacustrine period with numberless large and small lakes, which have now disappeared, not in consequence of the action of man, but in consequence of some general causes affecting the earth's surface since the last glacial period. The process is still more accelerated by the rapid upheaval of the continent; the whole of the Arctic coast, as also most of that washed by the Pacific, the Mediterranean, the Red sea, and parts of the Indian ocean, being in a state of gradual elevation, while the few areas where traces of subsidence have been noticed are very limited. The influence of the desiccation of A. has been felt even during historic times, and the migrations of the Ural-Altaians, Turks, and Mongols will probably be best explained if this change in the condition of central A. be taken into account; while the same circumstance explains the nearly desert state of those regions which were the cradle of European civilization.

Volcanoes play an important part in A.'s geology; more than 120 active volcanoes are known in A., chiefly in the islands of the s.e., the Philippines, Japan, the Kuriles, and Kamachtka, and also in a few islands of the seas of Bengal and Arabia, and in w. A. Numerous traces of volcanic eruptions are found, not only in the same regions, but also in e. Tian shan, in the n.w. border-ridges of the high Siberian plateau, and in the s.w. of Aigun in Manchuria. Earthquakes are frequent, especially in Armenia, Turkestan, and around Lake Baikal.

Minerals. A. is exceedingly rich in a great variety of mineral products. There are gold mines of great wealth in the Urals, the Altai, and e. Siberia; and auriferous sands are found in Corea, Sumatra, Japan, and in the Caucasus mountains. Silver is extrated in Siberia; platina in the Urals; copper in Japan, India, and Siberia; tin in Banca; mercury in Japan. Iron ore is found in nearly all the mountainous regions, especially in Asia Minor, Persia, Turkestan, India, China, Japan, and Siberia; but iron mining is still at a rudimentary stage. Immense coal beds are spread over China and the islands of the Pacific (Hainan Japanese archipelago, Sakhalin), e. Siberia, Turkestan, India, Persia and Asia Minor. They cover no less than half a million sq. m. in China alone; but the extraction of coal is as yet very limited. Graphite of very high quality is found in the Sayans and n. Siberia. The diamonds of India, the sapphires of Ceylon, the rubies of Burmah and Turkestan, the topazes, beryls, etc. of the Urals and Nertchinsk, have a wide repute. Layers of rock-salt are widely spread, and still more so the salt lakes and springs. The petroleum wells of the Caspian shores already rival those of the United States. Of other mineral products of less value which are used in modern industry, such as manganese, quartz sand, dyeing matters, and the like, there is no lack in A.; and when modern industry shall spread over the great e. continent, it will find at hand the best specimens and the greatest variety of mineral products, although it will have to vanquish the obstacles opposed to their extraction by the difficulties of access of the mountain tracts.

A variety of mineral springs, some of them equal to the best waters of w. Europe, are widely spread over A. Those of Caucasus and Transbaikalia already attract a number of patients.

Climate. Even w. Europe has quite a continental climate. Still more continental is the climate throughout A., with the exception of a part of its coast regions. On account of the immense area of A., great differences of climate are met with, and therefore the meteorologists subdivide the continent into several climatic regions. (*a*) The province of w. Siberia, purely continental, is very cold in the winter and hot in summer. (*b*) E. Siberia is still more continental, colder in winter, and drier; it includes the pole of cold about Verkhoyansk, under 67° 34′ n. lat., which is the coldest spot of the n. Hemisphere; much wind, whatever its direction, brings to it a warmer air; and its average yearly temperature is no more than 2° Fahr., while that of January is 88° below the freezing point of the Fahr. scale. See TEMPERATURE, TERRESTRIAL. (*c*) The Kamchatka province, receiving much more rain than the preceding, is moister and more genial. (*d*) The Chinese have a cold winter, and receive in the summer the periodical rains due to the monsoons. In Japan the climate is much the same, but more moderate. (*e*) The c. Asian plateau is characterized by an exceedingly dry climate, with very cold winters, the cold being increased by its height above the sea level. (*f*) The same exceeding dryness of climate is met with in the Aral-Caspian lowland, with its scanty rains and depressingly hot summer; and the same again is true with regard to (*g*) the Arabian region and Mesopotamia, which together may be considered as an e. continuation of the Sahara. (*h*)

The Mediterranean region, including Asia Minor, enjoys the best climate, reasonably moist, and more moderate in its extremes of temperature. *(c)* The valley of the Lower Indus, whose climate is dry and very hot, must be considered as a separate region; while *(d)* India, the Indo-Chinese peninsula, and Australasia have a tropical climate, characterized by abundant periodical rains, especially in the summer, and a limited range of temperature. During the winter, A., as a whole, with the exception of India, the Indo-Chinese peninsula, and s.w. Arabia, suffers from a temperature much lower than that of corresponding latitudes elsewhere; while in July, throughout all A., except on the coasts of the Kara sea, Kamchatka, and the Manchurian littoral, the temperature is higher than under the same latitudes elsewhere.

The extreme cooling of n.e. A. during the winter results in a high pressure of air, which flows in Jan. s., s.e., and s.w., resulting in n.w., n., and n.e. winds in Manchuria, China, India, and s.e. Europe. In July, the barometrical minima in India, n.e. Siberia, and n. Manchuria result in s.w. and w. winds on the w. coasts of India, and s. and s.e. winds in s.e. A., while n.e. A. is under e.n.e., n.e., and e. winds.

It may be seen from the above how unequally the rainfall must be distributed over A. Thus, the w. Ghats of India, and the w. slopes of the Assam mountains, receive during the year no less than 98 in. of rain, which often falls in torrents. As a rule, the w. coast of India and the Indo-Chinese peninsula, as also the valley of the Ganges, receive more than 75 in. of rain per year; while immense tracts of the Aral-Caspian depression, the c. Asian plateau, Arabia, and Persia have less than 10 in. per year (no more than from 2 to 5 in. over c. A.); and the remainder has from 10 to 25 in., with between 25 and 50 in s. Siberia and Manchuria.

Flora. When the traveller crosses the Urals and enters the lowlands of w. Siberia, he finds but little difference between the vegetation of the e. of Europe and that of n.w. A., and therefore the whole of Siberia, down to the 50° of lat., has been included in one and the same domain of vegetation stretching from Scandinavia to the Pacific, across the n. half of the Old World. Only a narrow strip of land along the shores of the Arctic ocean, where tree vegetation is represented only by two species of dwarf willows, two or three inches high, and by shrubs of the dwarf birch, is considered as a separate region—that of the tundra region, which extends from the White sea to the n.e. extremity of A. It is the true domain of lichens and mosses, which clothe the deeply frozen ground, but in the few sheltered places where some soil has accumulated, we find hundreds of our common European flowering plants. The remainder of Siberia is included in the European-Asiatic boreal domain. Forests cover these extensive tracts, both in the hilly districts and in the marshy lowlands of w. Siberia, and they consist of the same trees (pine, fir, larch, cedar, silver fir, birch, aspen, and poplars) with which we are familiar in Europe. Only the red beech, which even in middle Europe does not advance farther e. than Poland, does not penetrate into Siberia; and the oak does not cross the Ural, reappearing only on the s.e. slope of the great plateau. Besides, some conifers (larch, fir) show slight differences from their European congeners, which permit us to treat them as separate species. Nevertheless, the forests of Siberia differ widely from those of Europe in the predominance of the larch, the rarity of the Scotch fir, which grows only on the drier ground, and the very characters of the trees, compelled to accommodate themselves to a harsh climate and to a soil either stony or swampy. The underwood of the Siberian forests also offers a richer variety of species, and many a shrub now a favorite in our gardens for its wealth of blossom, [illegible] *Robinia caragana*, *Lonicera tatarica* and [illegible] *Clematis*, *Rhododendron*, has its home in the alpine tracts which border the great plateau on the n.w. On the meadows which cover immense areas both on the lowlands and high plains the vegetation as a whole differs but slightly from that of e. Europe, but it has a very different appearance, on account of the immense size reached by many grasses with hard woody stems and the brilliancy of their showy flowers. Peonies, aconites, gentians, [illegible] and the like, in the spring time impart such a brightness to the meadows of the Baraba steppe in w. Siberia, [illegible] of the high prairies of Mongolia and Transbaikalia, as [illegible] European meadows seem exceedingly tame in comparison with those of Siberia. [illegible] grows freely throughout the region, except in places lying at a great altitude, where early frosts destroy the crops. Barley is cultivated even at Yakutsk, where it ripens rapidly during the hot summer, and under the greater amount of light received in these high latitudes. But fruit trees, although they blossom every year, yield no fruits; the late May frosts nip their blossoms.

This wide vegetation-region, which occupies all n. A., is bounded on the south by a line traced roughly from the Black sea to Lake Baikal, and thence to the Upper Amur and the sea of Okhotsk. It has not, however, the uniformity it may be supposed to have from a glance at a geo-botanic map. While the species freely spread from w. to e. on the lowlands of Siberia, they spread quite as easily from s.w. to n.e., both along the high plains and the alpine regions which border the high plateau in the n.w., and over the plateau itself. Therefore, even the Siberian flora is easily subdivided into several separate regions. Thus we see the cedar tree spreading all along the highest parts of the n.w. border ridge of the high plateau, from the Altai to the Lena; we find the same vegetation on the high plateau of the Kosogol and on the Vitim; the vegetation of the high plains of the Altai offers features common to that of the high plains w. of Lake Baikal; and the Transbaikalian flora partakes of the characters of the Gobi. As soon as the Amur issues from the high plateau, we find on its banks the Chinese and Japanese flora under the same latitudes as the purely Siberian flora in the w. Finally, it appears from recent investigations that even about Lake Balkash and at the foot of the Tian-shan we have remainders of a European-Siberian flora, which has maintained itself on the better-watered slopes.

The next vegetation zone [illegible] maps is that of the steppes, which extends from the steppes of s. Russia over the Aral-Caspian depression and the middle parts of the high plateaus of w. and e. A., including several [illegible] regions [illegible] Han-hai, the Gobi, the dry [illegible] parts of Arabia, Persia, and n.w. India. This wide region ought to be divided in c. A. alone into at least four subregions: the Aral-Caspian, the [illegible], the [illegible], and the Mongolian floras. The excessive dryness of climate gives to this region its characteristic aspect. Forest vegetation [illegible] only on the snow-covered mountains, which supply enough of moisture to the soil, while [illegible] the steppe vegetation climbs up to the [illegible]. Only those bushes prosper which, like the [illegible] *[illegible] ammodendron*, [illegible] to the Aral-Caspian steppes and the base of the Tian-shan mountains. The steppes [illegible] in the spring [illegible] the dry deserts, are covered with a rich carpet of nutritious grass, [illegible] Festuca, Stipa, Artemisia, Salsolaceæ. In the dry regions of Arabia, the flora assumes a [illegible] character, owing to the presence of the gum acacia and the date palm.

The flora of the [illegible] plateau, including China, Manchuria, and Japan, [illegible] as the Asiatic equivalent for the [illegible]. Oaks [illegible] as such as [illegible]. So also the walnut, the [illegible] poplars, [illegible]. The forests [illegible] of a most mixed vegetation, where s. species meet with n. ones, become really beautiful; in Japan a variety of species of [illegible]. A rich [illegible] the [illegible] passable, especially in the littorial region, which is [illegible]. In the [illegible] parts, rich [illegible]; the grass vegetation becomes luxuriant [illegible] Amur, [illegible] easily [illegible] gigantic size. Rice and cotton [illegible] region. The gradual disappearance of [illegible] species and the prevalence of [illegible] permits the [illegible]; the Chinese flora and that of M[illegible].

In w. A. the [illegible] vegetation of the moister parts of Caucasus and [illegible] belongs to the Mediterranean flora of Europe. [illegible] of this district, which [illegible] (plum, cherry, apricot, pear) are [illegible] originally to this region. The flora of Asia Minor [illegible] Europe and n. Africa, owing to its [illegible] and pistachio trees, [illegible] variety of [illegible].

South and s.e. A., with their numerous islands, display the richest flora, which seems quite distinct from the above, and extends as a separate domain of vegetation over India, the Indo-Chinese peninsula, and the archipelagos, and (according to the Drude) reaches n.w. Australia. The hot climate, and the great amount of summer rains with a relatively dry winter, contribute to the development of a rich tropical vegetation. Thanks to the moisture of climate, the higher parts of the region, particularly the Himalayas, are clothed on their s. slopes with forests up to heights of 12,000 and 13,000 ft. The vegetation of the higher hilly tracts is very like the European. Numbers of plants growing on the Himalayan summits are common to all arctic regions, showing thus the unity of flora of the Old World at its issue from the glacial period. Lower down, in the forest girdle, pines, Scotch firs, juniper, and yew-trees are quite like their European congeners. The Indian cedar or 'deodar' yields an excellent timber, while in the underwood a remarkable variety of rhododendrons, growing sometimes 90 ft. high, at heights about 8,000 ft. above the sea, are noteworthy.

In the lower parts of the region, and especially the neighborhood of the sea-coasts, the tropical vegetation reaches the variety and size of the American. Here the sugar-cane, the cotton shrub, and the indigo had their origin. The cocoa nut palm and the banyan tree are the most striking feature of the coast vegetation. Ferns reach the size of large trees. The gigantic banyan, under whose branches hundreds of men can find a shelter, the screw pine (*Pandanus*), the india-rubber, and the red cotton trees grow in immense forests, and bamboos grow thick and high.

In Borneo, Java, and the islands of the archipelagos, the tropical vegetation is, in its broad features, the same as in India. The mountain-flora also is like that of the Himalayas; rich forests clothe the volcanoes up to their tops. The sago palm, the bread tree, imported from the South Sea islands, and the tamarind, also imported, are largely cultivated, as also the cocoa nut palm and the sugar palm. Orchids appear in their full variety and beauty. The swamps are covered with mangroves, or with the anomalous looking Nipa or Susa palm; and vanilla, pepper, clove, and nearly all the spices, are native to this region.

It is easy to see from the above what a variety of useful plants A. has given to Europe. Wheat, barley, oats, and millet come from w. A.; so also onions, radishes, peas, beans, spinach, and several other vegetables of our kitchen gardens. Nearly all our fruit trees have the same origin. The apple, pear, plum, cherry, almond, pistachio, and mulberry tree were first cultivated in A.; the raspberry and even lucerne have been imported from A. to Europe.

Fauna.—The fauna of nearly the whole of continental A. is considered by zoologists as belonging to one single domain—that of n. and central A.; and the immensity of this zoo-geographical region is easily accounted for by the ease with which animals could spread over the plains of Europe and Siberia on the one side, and on the other, along the high plateau which stretches from Tibet to the land of the Tchuktchis. But this wide region can be easily subdivided into the Arctic region, which shares its characters with Arctic regions generally; the boreal, embracing the lowlands of w. Siberia; the Daurian, in the n. parts of the great plateau, and the central Asian. The fauna of Siberia is much like that of n. Europe, and would be still more like were it not for the disappearance from Europe of several species still existing in Siberia. It is the true habitat of all fur-bearing animals, as the bear, wolf, fox, sable, ermine, otter, beaver, common weasel, and squirrel; as also of the hare, the wild boar, the stag, the reindeer, and the elk, all belonging to the European faunas, with the addition of several species common to the Arctic fauna. In e. Siberia, however (*i.e.*, in the n. parts of the high plateau) we find representatives of the fauna of central A., which spread from the s.w. (see SIBERIA). A further addition of Mongolian species is found on the lower plateau in Transbaikalia, where the fauna of the central Asian depression meets with that of Siberia.

The Central Asian plateau has a fauna of its own. We find there the wild ancestors of several of our domestic animals, viz., the wild horse (*Equus Przewalskii*, discovered by Przewalski (Przhevalsky) in the Alashan mountains), the wild camel and donkey, and the *Capra ægagrus*, from which our common goat is descended. The yak, several species of antelopes, and the roebuck are characteristic of the Central Asian fauna; so also are the large sheep (*Ovis argali*, and *Ovis polii*), now disappearing, which found refuge in the wilder parts of the plateaus. In the steppe region we find the same fauna as in Siberia, with the addition of the tiger, which occasionally reaches Lake Zaisan, and even Lake Baikal; the leopard and hyena, coming from warmer regions; and a variety of endemic birds; while in Arabia there is an admixture of African species.

The fauna of mammals in China, Manchuria, and Japan differs but little from the Siberian. The difference is mainly notable with regard to the birds, among which the pheasants are richly represented. Several Indian species also penetrate within this region. The Caucasus has a fauna belonging to the Circum-Mediterranean region, and it is worthy of notice that the bison, which has now completely disappeared from Europe (with the exception of the Byelovyezh forest in w. Russia), is still found in the forests of Caucasus; there we find also the same abundance of pheasant as on the Pacific littoral. The fauna of Asia Minor unquestionably belongs to the Circum-Mediterranean region, and includes representatives of the warm zone, viz.: small apes, which spread from Africa into Persia, the porcupine of Southern Europe, and the Genet (q.v.).

Southern and South-eastern A. belong to a separate zoological domain. The heights of the Himalayas have the fauna of the Tibet portion of the high plateau; but on the s. slopes the fauna is purely Indian and Transgangetic, while a few African species are found on the plains of India and in the Deccan. As a whole, the tropical fauna of A. is richer than the African, and the American tropical fauna surpasses it only in the number of parrots and the family of Picariæ. It is characterised by the great number of carnivora, which find ready refuge in the jungles, and by the elephant, rhinoceros, wild buffalo, red deer, many long-armed apes and half-apes, huge bats, genets, and a variety of serpents, and crocodiles; while the bird fauna includes vultures, a variety of parrots, pelicans, and flamingoes. The fauna is still richer in the Indo-Chinese peninsula, while in the archipelagos of s.e. A. several Australian species add to its extent.

The fauna of A., as of Europe, has undergone notable changes since the glacial period. The mammoth and hairy rhinoceros have disappeared, and their skeletons are buried in innumerable quantities in the great glacial deposits. So also the cave bear, tiger, wolf and hyena. Even within historic times, several species of mammals, like the bison and the aurochs, have all but disappeared, while others are found only in very small numbers in the wildest parts of the high plateau. See AUROCHS.

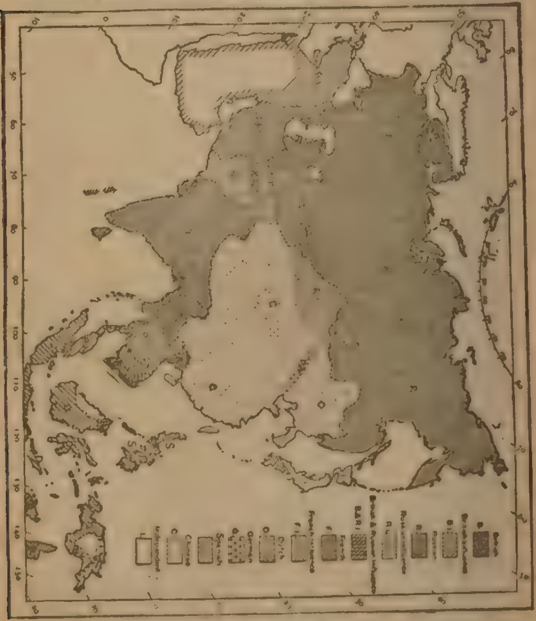
Ethnography. The aggregate population of A. is estimated at 835,000,000, being thus more than one half of the entire population of the globe. In comparison with the total area of A., this population is nevertheless small, giving only an average of 49 inhabitants per sq. m. It is, however, very unequally distributed, and reaches 557 per sq. m. in some provinces of China (denser than in Belgium (514 per sq. m.)), and 1.0 in some part of n.w. India. As a rule it is greatest in those parts of A. which are most favored by rains, the densest population being met with to the s. and s.e. of the great plateau on an area comprising only one-fifth of A.'s surface. Seven-tenths have scarcely more than from 3 to 20 inhabitants per sq. m.; and nearly one-tenth is almost quite uninhabited.

Having been inhabited by man since the earliest period of the stone age, and having been moreover the theatre of so many migrations, A. has but few human races free from mixture with other races. Nevertheless, the hindrance to mutual intercourse opposed by its mountains, and still more by its high plateaus and deserts, prevented the mingling of races and stems to such an extent as in Europe; therefore we find now in A. the greatest variety of ethnological types and languages. And distinct stems in the less accessible tracts, numbering now but a few families, are sometimes the last remainders of great races. The work of classifying the immense variety of stocks inhabiting A. according to their ethnological affinities and origin is being busily prosecuted by ethnographers and philologists, but is as yet far from being terminated.

The inhabitants of A. belong to five different groups: the so-called Caucasian race type in w. A. and India; the Mongolian in central and e. A., as also in the Indo-Chinese peninsula; the Malay in Malacca and the Indian archipelagoes; the Dravidas in s. India and Ceylon, and the Negritos and Papuas in the virgin forests of the Philippine Islands and Celebes. A sixth division, comprising the stems which inhabit n.e. A.—the Hyperboreans, whose affinities are not yet well known, must be added to the above. The Mongolian race alone embraces nearly seven-tenths of the population of A.; the

Malay, about two-tenths; and the Caucasian about one-tenth. The Europeans number of about 6,000,000 (Russians) in Caucasus, Turkestan and Siberia; [illegible] 150,000 English in India; and 45,000 in the Dutch Indies.

The further subdivision of the inhabitants of A., according to language, is as follows: The Caucasian race embraces (1) tribes and stems in Caucasus (Georgians, Lesghians, Circassians, etc.; (2) the Semitic branch, partly mixed with others, and subdivided into n. and s.: it comprises the Jews and the Arabs, who spread over Arabia, Mesopotamia, Syria, and partly over Africa; and (3) the Indo-Germanic branch, containing: (a) the Indians, whose language has, besides the Hindi, spoken in Central India, several dialects spoken in Kashmir and Punjab, the Hindustani or Urdu, the Sindhi, the Marathi, the Bengali and Assami; and (b) the Iranians: Persians, Tajiks and [illegible], as also the Kurds, the Armenians, and Ossetians. To these must be added the Russians and other Europeans.



Ethnological Map of Asia.

The Mongolian (or Yellow) type is represented by four great branches, each of which [illegible] a great variety of stems, some very numerous, others [illegible] apparently tribes. The stems of the Ural-Altaic or Turano-Tartaric [illegible] in their turn into [illegible] the [illegible] the Finnish stems, [illegible] the Turco-Tartaric [illegible] Yakuts, Nogais, Uzbeks, Uigurs, Turks, and [illegible] the Mongols, including the Mongols proper, the Buriats, and the Kalmucks; and (e) the Manchurians and Tunguses. [illegible] belonging to the same subdivision [illegible] the Japanese and the Coreans; while a fourth great branch consists of the nations speaking monosyllabic languages, namely: (*a*) the Chinese; (*b*) the Tibetans; (*c*) the Himalayan tribes; (*d*) the Burmese; (*e*) the Siamese; (*f*) the Annamese; and (*g*) the Sifars, Miautse, and several others.

The Hyperboreans, whose origin is not yet sufficiently known, are considered as quite separate from the above. They include: (1) the Yukaghirs, (2) the Tchuktchis, and (3) the Koryaks and Kamchadales—all inhabiting the extreme n.e. of A.; and (4) the Ainos or Kurilians. The Yenisei Ostiaks and the Kotts are reckoned to belong to the same stock (see SIBERIA).

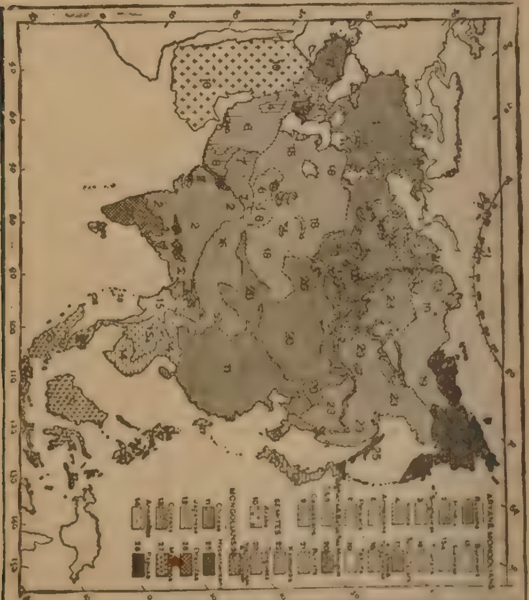
The Dravidian race, which formerly peopled all India, is now reduced to the mountain tracts of the interior and to s. India, and is represented by (1) the Dravidas proper, including the Tamuls, Telingas, Canarese, and other smaller stems; (2) the Kolarian tribes; and (3) the Singalese, whose language—the Elu—must be considered, however, as quite separate.

The Malay race has three chief subdivisions: (1) the Malays proper; (2) the Polynesians; and (3) the Melanesians, who are by some regarded as a mixture of Malays with Papuas. All three are subdivided into separate tribes (see MALAYS). The Negritos and Papuas are now found (so far as A. proper is concerned) chiefly in the less accessible forests of the peninsula of Malacca, and on the Philippine and Andaman islands.

Religions.—Since the dawn of history, A. has been the birthplace of religions which spread all over the continent and the other parts of the world. The four great religions which are professed by the great majority of mankind—the Jewish, Buddhist, Christian, and Mohammedan—had their origin in A., where they grew up under the influence of still older religions—the Babylonian and that of Zoroaster—both also of Asiatic origin. Multitudes of new sects, or religions, mingled together, and exercising influence upon one another, are continually growing on the soil of A. At present the inhabitants of A. belong chiefly to the Buddhist religion, which (inclusive of the followers of Lamaism, the moral philosophy of Confucius, and the teachings of Lao-tse, who all accept more or less the Buddhist ritual) has no less than 530,000,000 to 560,000,000 of followers, i.e., nearly one third of mankind. The old faith of Hinduism has no less than 187,000,000 of followers in India. Most of the inhabitants of w. A., as also of part of central A., follow the religion of Islam; they may number about 50,000,000. The Christians number about 20,000,000 in Armenia, Caucasus, Siberia, and Turkestan. Many of the Ural-Altaians continue to maintain their ancient faith (Shamanism), though a number of them are nominal followers of the Buddhist or Christian religions. Jews are scattered mostly in w. and central A. A few fire-worshippers (Ghebres or Parsi), who are found in the w. of India and Persia, are the sole remnant of the once widespread religion of Zoroaster, while vestiges of Sabaeism are found amidst the Gesides and Sabian on the Tigris.

Civilization.—Together with Egypt, A. was the cradle of the present European civilization; but, owing to many circumstances, partly physical and partly historical, the development of A. proceeded on independent lines, and, as a whole, it may be considered as behind the civilization of Europe. The current of civilization, which formerly moved from A. to Europe, returns now from w. to e., unhappily too often in its worst shape, that of conquest. Many a civilization which grew up, either in s.w. A. or on the s. slope of the great plateau, has been swept away by invasions of less civilized half-nomads. At present one finds in A. all varieties of civilization: the primitive tribes of n.e. Siberia; the confederations of nomadic shepherds and great nations in possession of a common stock of national customs, beliefs, and literature, like China; the tribal stage; the "compound family" forming the real basis of China's social organization; the rural community, both of the Indian and of European and Mussulman type; the loose aggregations of Tchuktchis, having no rulers and no religion beyond the worship of forces of nature, but professing with regard to one another principles of morality and mutual support often forgotten in higher stages of civilization; and despotic monarchies with a powerful clergy. So also in economic life. While the tribes of the far n. find their means of subsistence exclusively in fishing and hunting carried on with the simplest implements, among which stone weapons have not yet quite disappeared, and the tribes of central A. carry on primitive cattle-breeding and lead a half-nomadic life, others are agriculturists and have brought irrigation in Turkestan to a degree of perfection hardly known in Europe.

Political Conditions.—Viewed in its broad features, universal history appears as a long record of the mutual intercourse of A. and Europe, and of struggle between them. While the countries beyond the great plateau entered but quite recently within the domain of w. history, those on its Mediterranean slope have never ceased to exercise a powerful influence on Europe. At the very dawn of written history – that is, forty centuries before our era – the great Accadian empire already influenced the inhabitants of the coasts of the Mediterranean. Later on, the Phœnicians extended their authority over n. Africa and the Ægean sea; the Persians modified the development of Egypt; and at a very remote epoch, the date of which cannot be yet ascertained, an oasis of high civilization, grown up at the base of the Altai mountains, spread itself to the w. over n. Europe. On the other hand, as soon as Greece, which had borrowed her civilization from A., brought it to so high a pitch as to become the cradle of European culture, she tried to extend her rule over the decaying empires of w. A. Alexander of Macedon pushed his conquests as far as Turkestan, and later on Rome conquered w. A. But the Greek and Arab civilization in central A. decayed under the raids of Mongol hordes. The Roman empire was arrested by them and had to stop at the very confines of A. on the shores of the Euphrates; the Arsacides and Sassanides of Persia repulsed the Roman [illegible], and conquered Roman provinces, while it was to the successive inroads from A. into Europe that the great migrations of the first centuries of our era were due. Ural Altaians migrated to the Danube and founded Hungary. **Other Turanians — the Merys, the Alans, the Avers** — penetrated into Europe from the same. Mongols abandoned their rapidly desiccating plateaus, and invaded the Russian plains; the Arabs, following the



Distribution of the Continent among the Great Asiatic Powers.

s. coast of the Mediterranean, invaded Spain; and the empire of the Osmanlis arose on the ruins of the e. Roman empire. By these invasions, A. arrested the free development of Europe, and compelled the Germanic, Gallic, and Slavonic federations to gather into powerful states of the Roman monarchical type.

A new epoch in European history began after the development of European navigation, when Portuguese ships, rounding the cape, founded the first European colonies in India. They were soon followed by the Spaniards, the Dutch, the French, the Danes, and the British, all endeavoring to seize the richest colonies in A., and all involved in interminable struggles for preponderance in her lands and on her seas; while Russia, in the course of a few centuries, conquered and partly colonized the best parts of the immense cold prairies and forest lands on the n.w. slope of the high plateau, and crossing its narrow extremity in the n.e., reached the Pacific. Great Britain established herself in India, and expelling thence her competitors from all but a few spots on the sea coast, she took possession of the whole of the peninsula, and extended her powers over the w. part of the Indo-Chinese peninsula. The Portuguese retain in India only Diu, Damaun, and Goa; and the French keep Chandernagore, Yanaon, Pondicherry, Carical, and Mahé. The next colonial power in A. is the Dutch, who have under their dominion most of Borneo, Sumatra, Java, Celebes, the Moluccas, and the small Sunda islands. British and French interests are rivals in the Indo-Chinese peninsula, and while Burmah has become English, the recent annexation of a part of Tonkin by France permits her to extend her influence in Annam. Finally, several islands of the s.e. archipelago belong to Spain. Leaving out these relatively small colonies, three great powers, Great Britain, Russia, and China, are the real masters of A., the last-named empire opposing by the number and cohesion of its inhabitants, a powerful resistance to the encroachments of European powers on its territory, and promising to become a formidable power, which may some day exercise a great influence on the destinies of mankind.

The chief political divisions of A., with their approximate areas and population, mostly estimated, appear as follows. The territories belonging to European powers, or protected by them, are distinguished by abbreviations:

	Area in sq. m.	Population.
RUSSIAN ASIA—		
Caucasus (Russian)	182,500	5,534,850
Siberia (Russ.)	4,824,570	4,393,500
Transcaspian Region (Russ.)	230,400	306,000
Caspian Sea	169,670	......
Turkestan (Russ.)	1,541,500	5,245,000
	6,948,640	16,079,350
WESTERN ASIA—		
Asiatic Turkey	729,200	16,133,000
Samos (trib. to Turkey)	210	41,200
Cyprus (British)	3,580	186,200
Independent Arabia	968,200	3,700,000
Aden and Perim (Brit.)	70	34,900
	1,701,260	20,095,300
IRAN AND TURAN—		
Persia (Russ. and Brit. prot.)	636,400	7,653,600
Afghanistan (Br. and Russ. influence)	240,000	4,000,000
Kafiristan (Russ. and Brit. prot.)	20,000	1,000,000
Beluchistan (Brit. prot.)	106,800	350,000
Khiva (Russ. prot.)	22,300	70,000
Bokhara and Karategin (Russ. prot.)	92,300	2,130,000
	1,117,800	15,203,600
INDIA—		
British Territory	787,000	195,019,200
Feudatory States (Brit.)	509,730	55 [illegible]
Ceylon (Brit.)	25,300	2,850,000
French Possessions	195	282,700
Portuguese Possessions	1,065	475,200
Himalaya States (Brit.)	8,000	3,300,000
	[illegible]	257,119,100

	Area in sq. m.	Population.
INDO-CHINESE PENINSULA—		
Wild tribes of Assam (Brit. prot.)	25,290	200,000
Lower Burmah (Brit.)	277,720	6,736,800
Upper Burmah (Brit.)		
Straits settlements (Brit.)	1,150	540,000
Siam	280,550	6,000,000
Malacca States	31,500	300,000
Cochin China (Fr.)	225,620	24,100,000
Tonkin (Fr.)		
Cambodia (Fr. prot.)		
Annam (Fr. prot.)		
	1,042,230	37,876,800
CHINA AND JAPAN—		
China Proper and Manchuria	1,650,300	395,000,000
Vassal States (Mongolia, Tibet, Zungaria, Eastern Turkestan)	2,519,300	9,200,000
Corea (Chin. prot.)	84,250	10,500,000
Hong-Kong (Brit.)	32	160,400
Macao (Port.)	28	68,100
Japan	148,500	37,869,000
	4,412,410	452,797,500
SOUTH-EASTERN ASIA—		
Dutch East Indies	568,900	28,468,000
Philippines, Marianes, Caroline, and Sulu Archipelago (Span.)	116,250	5,681,000
East Timor, etc. (Port.)	6,290	300,000
North Borneo and Labuan (Brit.)	27,730	181,300
Borneo States (Sarawak and Brunei)	62,940	150,000
	781,920	35,080,300
Total, Asia	17,417,750	834,251,950

Produce.—The amount of cereals—rice, millet, wheat, barley, oats, etc.—supplied by the rich corn-fields of China, Indo-China, Japan, and even Turkestan, may be best judged by the density of population in the better watered parts of these countries, and by the rapidly increasing amounts of corn exported, especially from India; while in s. Siberia, the Altai, and the middle Amur, Russian settlers raising wheat, rye, oats, barley, melons, etc., on the virgin soil of the prairies, enjoy a welfare hardly known in Russia. The crops of cotton in India and Asia Minor helped Europe to meet the cotton crisis of 1863; and those of Bokhara and Transcaucasia gave an impulse to the growing cotton industry of Russia. Tea is the chief crop of s. China, Assam, India, and Ceylon; and coffee the wealth of Arabia, India, Ceylon, and the Dutch colonies. The silkworm culture is widely spread in Asia Minor, Persia, Turkestan, India, China, and Japan. The sugar-cane is largely raised in s. and s.e. A. Oleaginous plants, indigo and other dye plants, jute, spices, the cinchona tree, and opium-producing plants are extensively cultivated, as also fruit trees in w. A. and Turkestan. The cocoa palm, the bread tree, the gutta-percha tree, and the like are also grown to a great extent in tropical A., while many of our most valuable species of timber came originally from A., and are still imported thence to Europe.

On the steppes and plateaus of central A., numberless herds of horses, horned cattle, and sheep furnish all the necessaries of life to the nomad or half-nomad Mongolian inhabitants of these regions, and supply the European trade with a constantly increasing amount of hides, wool, and tallow. The forests of the north and east afford the means of existence to nomad hunters, [illegible] competitors in the Siberian Russian possessions. [illegible] supply the trade with rich furs; while the rivers of Siberia and Manchuria provide food for the nomad Ostiaks, Golds, and [illegible]. [illegible] the Behring and Okhotsk seas of the N. Pacific, and their islands, supply the civilized world with some of the finest furs.

Ways of Communication.—The plateaus, the deserts, and the mountainous regions of A., thickly clothed with impenetrable forests and intersected by deep gorges and valleys, are so many obstacles to the communication between different parts of the continent. The roads of A., except those of China and India, and a few main lines elsewhere, are mostly mere footpaths or tracks marked in the deserts, with wells far apart, and bleached with the bones of camels. Caravans of camels are therefore the chief means of transport for goods and travellers in the interior; donkeys, yaks, and even goats and sheep, are employed in crossing the high passages of the Himalayas; horses are the usual means of transport in most parts of China and Siberia, and in the barren tracts of the n. the reindeer, and still farther n. the dog, are made use of. Fortunately, the great rivers of A. provide water communication over immense distances. The deep and broad streams of China, allowing heavy boats to penetrate far into the interior of the country, connect it with the sea; a brisk traffic is carried on along these arteries. In Siberia, the bifurcated rivers supply a water way not only n. and s. along the course of the chief rivers running toward the Arctic ocean, but also w. and e.; thus a great line of water communication crosses Siberia, and is, with but a few interruptions, continued in the e. by the Amur, navigable for more than 2,000 m. In the winter the rivers and plains of Siberia become excellent roads for sledges, on which goods are still chiefly transported.

Railways are only beginning to make their appearance in A. In India they already represent a total length of 16,650 m. Russia, too, has spread her railways far into A.; a military line now connects the Caspian sea with Merv, and Merv with Tchardjui on the Amu-daria, and it will be continued toward Samarcand. In the n., Perm—the terminus of steamers navigating the Kama (tributary to the Volga)—is connected by rail across the Urals with Tyumen, whence steamers ply to Tomsk, in the very heart of Siberia, and to Barnaul, in the Altai. It is proposed to connect Tomsk by rail with Lake Baikal and Tchita, or Srvetensk on the Shilka, whence steamers ply to Nikolayevsk, on the Pacific. Finally, China decided in 1886 to open its territory to railway construction. A brisk traffic is carried on along the shores of A., all its chief ports in the s. and s.e. being already in regular steam communication with Europe and the United States. With regard to the much discussed n. route from Europe to Siberia, via the Kara sea and Arctic ocean, Nordenskjold's circumnavigation of A. and the numerous attempts of the last few years have proved it possible; but they have shown also the difficulties in the way of regular traffic.

Telegraph communications are in a much more advanced state than the roads. St. Petersburg is connected by telegraph with the mouth of the Amur and Vladivostok on the frontier of Corea; while another branch, crossing Turkestan and Mongolia, runs on to Tashkend, Peking and Shanghai. Constantinople is connected with Bombay, Madras, Singapore, Saigon, Hong Kong, and Nagasaki in Japan; and Singapore stands in telegraphic communication with Java, and Port Darwin in Australia. Finally, Odessa is connected by wire with Tiflis in Caucasus, Teheran, and Bombay.

Trade.—Notwithstanding the difficulties of communication, a brisk trade is carried on between the different parts of A., but there is no possibility of arriving at even an approximate estimate of its aggregate value. The maritime exports to Europe, the United States, and overland to Russia, reached in 1885-6, a value of nearly $875,000,000, and the imports about $625,000,000.

Hitherto A. has supplied Europe chiefly with raw materials—gold, silver, petroleum, teak and a variety of timber wood, furs, raw cotton, silk, wool, hides, and so on—with the products of her tea, coffee, and spice plantations, and with a yearly increasing amount of wheat and other grain. Steam industry is only now making its appearance in A., and although but a very few years old, it threatens to become a rival to European manufacture. Indian cottons of European patterns and jute stuffs already compete with those of Lancashire and Dundee. Several of the petty trades carried on in India, China, Japan, Asia Minor, and some parts of Persia, have been brought to so high a perfection that the silks, printed cottons, carpets, jewelry, and enamels of various kinds, far surpass in their artistic taste many like productions of Europe. The export of these articles is steadily increasing, and Japan supplies Europe with thousands of small articles which adapt the modes of Japanese art and taste to objects of European household furniture.

ASIA, CENTRAL: This term is generally, in its geographical sense, used of the region lying between the Altai mountains and the Persian Gulf, and includes part of Siberia, all Turkestan, Afghanistan, Beluchistan, and part of Persia. An earlier usage—that of Humboldt gave this name to the khanates of Bokhara and Independent Tartary. In Russian official language, C. A. is an administrative division of the empire lying to the s.w. of Siberia, and comprising, with part of what used to be called Siberia, the recent Russian annexations in Turkestan. Russian C. A. is divided into the governments of Akmolinsk, Semipalatinsk, Turgai, Uralsk, Semirechinsk, Sir-daria, Zarafshan, Amu-daria, the Trans-Caspian territory, and Ferghana. The total area is given at 1,261,000 sq. m., and the population at 4,390,000. For the physical geography of the region, see ASIA; see also TURKESTAN, SIBERIA, KHOKAND, etc.

ASIA MINOR, *ā'shē-a-mī'nėr* (Asia the Less, as distinguished from Asia in the widest extent): is the name usually given to the w. peninsular projection of Asia, forming part of Turkey in Asia. The name is not very ancient; originally the Greeks seem by Asia to have meant only the district around Ephesus, but with their geographical knowledge, the scope of the name Asia gradually widened. In all probability the word Asia is from a root signifying the sun-rising, and essentially the same, therefore, as the modern Greek name for A. M., Anatolia (q.v.)—*Anatolé*, the East, whence is formed the Turkish *Anadŏli*. A. M. includes the peninsula; the e. boundary, somewhat artificial, being a line from the gulf of Skanderoon to the upper Euphrates, and thence to a point e. of Trebizond. The area of the peninsula exceeds 220,000 sq. m. It constitutes the w. prolongation of the high tableland of Armenia, with its border mountain-ranges. The interior consists of a great plateau, or rather series of plateaus, rising in gradation from 3,500 to 4,000 ft., with bare steppes, salt plains, marshes and lakes; the structure is volcanic, and there are several conical mountains, one of which, the Ergish-dagh (Argæus), with two craters, attains a height of 11,830 ft., towering above the plain of Kaisarieh, which has itself an elevation of between 2,000 and 3,000 ft. The plateau is bordered on the n. by a long train of parallel mountains, 4,000 to 6,000 ft. high, and cut up into groups by cross valleys. These mountains sink abruptly down on the n. side to a narrow strip of coast; their slopes toward the interior are gentler and bare of wood. Similar is the character of the border ranges on the s., the ancient Taurus, only that they are more continuous and higher, being to the n. of the bay of Skanderoon, 10,000 to 12,000 ft., and farther to the w., 8,000 to 9,000 ft. The w. border is intersected by numerous valleys opening upon the archipelago, to the n. part of which Mts. Ida and Olympus belong. Between the highlands and the sea lie the fertile coast-lands of the Levant. Of the rivers the largest is the Kizil Irmak (Halys), which like the Yeshil Irmak (Iris), and the Sakaria (Sangarius), flows into the Black sea; the Sarabat (Hermus) and Mender (Mæander) flow into the Ægean. See ASIA.

The *climate* has on the whole a s. European character; but a distinction must be made of four regions. The central plateau, nearly destitute of wood and water, has a hot climate in summer, and a cold in winter; the s. coast has mild winters and scorching summers; while on the coast of the Ægean there is the mildest of climates and a magnificent vegetation. On the n. side the climate is not so mild, but the vegetation is most luxuriant.

In point of natural history, A. M. forms the transition from the continental character of the e. to the maritime character of the w. The forest trees and cultivated plants of Europe are seen mingled with the forms characteristic of Persia and Syria. The central plateau, which is barren, has the character of an Asiatic steppe, more adapted for the flocks and herds of nomadic tribes than for agriculture, while the coasts, rich in all European products—fine fruits, olives, wine, and silk, have quite the character of the s. of Europe, which on the warmer and drier s. coast shades into that of Africa.

The inhabitants, some 7,000,000 in number, consist of the most various races. The dominant race are the Osmanli Turks, who number about 1,300,000, and are spread over the whole country; allied to these are the Turkomans and Yuruks, speaking a dialect of the same language. The latter are found chiefly on the tableland, leading a nomadic life; there are also hordes of nomadic Kurds. Among the mountains of Trebizond are the robber tribes of the Lazes.

The Greeks and Armenians are the most progressive elements in the population, and have most of the trade; while the Greeks monopolize the professions, the ownership of the land is rapidly passing into the hands of Greeks, Armenians, and Jews. Administratively the country falls into eight vilayets or governments, with their capitals in Brusa, Smyrna, Konieh (Iconium), Adana, Sivas, Angora, Trebizond, and Kastamuni respectively.

ASIA MINOR.—21.

In ancient times the divisions were Pontus, Paphlagonia, Bithynia, in the n.; Mysia, Lydia, Caria, in the w.; Pisidia with Pamphylia, and Cappadocia, in the s.; and Galatia with Lycaonia, and Phrygia, in the centre. The Turkish islands of the archipelago belong, most of them, to Asia Minor.

Here, especially in Ionia, was the early seat of Grecian civilization, and here were the countries of Phrygia, Lycia, Caria, Paphlagonia, Bithynia, Lydia, Pamphylia, Isauria, Cilicia, Galatia, Cappadocia, etc., with Troy, Ephesus, Smyrna, and many other great and famous cities. Here, from the obscure era of Semiramis (about 2000 B.C.), to the time of Osman (about 1300 A.D.), the greatest conquerors of the world contended for supremacy; and here took place the wars of the Medes and Persians with the Scythians; of the Greeks with the Persians; of the Romans with Mithridates and the Parthians; of the Arabs, Seljuks, Mongols, and Osmanli Turks with the weak Byzantine empire. Here Alexander the Great and the Romans successively contended for the mastery of the civilized world. But, notwithstanding all these wars, the country still continued to enjoy some measure of prosperity till it fell into the hands of the Turks, under whose military despotism its ancient civilization has been brought to ruin. Recently, considerable portions of Armenia, in some respects part of the peninsula, have been absorbed by Russia. During the treaty negotiations between Russia, Turkey, and the powers, after the war of 1877, Great Britain made a secret engagement to guarantee against Russian aggression the Asiatic dominions of the porte, and to assume an indefinite protectorate over Asia Minor.

No very marked immediate benefits seem to be accruing to the wretched inhabitant of A. M. from this British protectorate; but the fault need not be wholly charged upon Great Britain, for the Turkish is not only the worst, but the most stubborn and hard to rouse, of any government in the world.

If, however, the British protectorate means, as it probably does, that Great Britain considers herself heir to A. M. on the final breakup of the Turkish empire, then the outlook one day for the development of the country would be very bright. And even in the interim British influence has brought about substantial blessings in that rich but long misgoverned land. A railway has been built from Scutari to Aldeger, a distance of 92 m.; from Smyrna to Serakeni 144 m.; from Smyrna to Alasher, 105 m.; Smyrna to Levdikeni, 9 m.; and Mersina to Adana, 42 m., in all 392 m. of railroad in A. M. If so much has been accomplished already in the teeth of Ottoman inertia, what may we not expect from the continued and increasing pressure of aggressive w. ideas? The battle-ground of ancient empire seems destined to be the battle-ground of modern ideas, and A. M. may be the Armageddon of the e. vs. the w., of Fatalism against the energy of free will.

ASSYRIA, *ăs-sĭr'ĭ-ă* (called Assur in the Assyrian inscriptions, Athura in the Persian, and Assura in the Median), was the northernmost of the three great countries that occupied the Mesopotamian plain. It was bounded on the n. by the Niphates Mountains of Armenia; on the s. by Susiana and Babylonia; on the e. by Media; and on the w., according to some, by the Tigris, but more correctly by the watershed of the Euphrates, for many Assyrian ruins are found to the west of the Tigris. It was thus about 280 miles long from n. to s., and rather more than 150 broad from e. to w. This plain is diversified by mountain chains on the north and east, and watered by the Tigris and its affluents, between two of which (the Zab rivers) lay the finest part of the country, called Adiabené. As it was the boundary land between the Semitic people and Iran, it became the scene of important political events. Its extraordinary fertility enabled it to support a large population. The high degree of prosperity and civilization reached by its inhabitants in very early times is attested not only by ancient writers, but by the extensive ruins of mighty cities, by the canals and contrivances for irrigation, and by the numerous proofs (furnished by recent excavations) of an acquaintance with the arts and sciences. The ruins of many cities are grouped around Nineveh; while lower down, the Tigris exhibits an almost unbroken line of ruins from Tekrit to Bagdad. Under the Mohammedans this fine country is now almost a desert.

History. Ancient authorities differ widely from each other respecting the rise and progress, the extent and the duration of the Assyrian empire. Berosus, a Greco-Chaldean priest at Babylon, who wrote about 268 B.C., and Herodotus, who, there is strong reason to suspect, did not visit Babylonia, as he claims to have done, differ widely from Ctesias of Cnidus, who was court physician to the Persian king Artaxerxes Mnemon (405 B.C.): the latter, no doubt, writing from distorted Persian sources, Herodotus from the reports of Greco-Egyptian and Phœnician dragomans. Berosus, who was a member of the caste of Chaldean scribes, and able to read the inscribed records in the Babylonian libraries, has hitherto met with very strong confirmation from the inscriptions.

In the Bible narrative we are told that Nineveh was founded from Babylonia: 'Out of that land (Babylonia) he (Nimrod) went forth into Assyria' (Gen. x. 11); and this statement is fully confirmed by the results of recent explorations. The earliest inscriptions found on the bricks from Assur (Kileh Shergat), the ancient capital, give to the first rulers of the land the Akkadian title of Patesi or 'high priest of the city of Assur,' and to the city itself the Akkadian name of Pal-bi-ki. The next notice of A. does not occur until the Assyrian king Pul, or Tiglath-pileser II., invaded Palestine, and was bought off by Menahem, king of Israel (738 B.C.). In the same reign we find the Jewish king Jehoahaz (Ahaz) becoming a vassal of the court of A., and the tribes beyond Jordan carried away captive (734 B.C.). In 722 B.C. Samaria is captured by Sargon 'the Tartan,' who had usurped the throne from his weak master, Shalmaneser IV. The next reference to A. is that of the siege and capture of Jerusalem by Sargon (Isaiah, x, xi, xx), and the siege of Ashdod (712-11 B.C.). This event is now proved to be distinct from the siege by Sennacherib in 701 B.C., which terminated apparently in a disaster for the Assyrian army. The last mention of A. is the record of the murder of Sennacherib by his sons in 681 B.C., and the accession of his faithful son Esar-haddon, the most powerful of all the Assyrian monarchs, for he carried his arms as far as the Mediterranean and conquered Egypt. Little credit is to be attached to the expedition of Holofernes recorded in the Book of Judith.

After this the empire appears to have gradually decayed, until at last, in the reign of Assur-bani-pal or Sardanapalus, or that of Esar-haddon II. (Saracus), a league for its destruction was formed between Nabopolassar, governor of Babylon, and Cyaxares, king of Media, which was strengthened by the marriage of Nebuchadnezzar, son of the former, to [illegible], daughter of the latter. The war and siege are said to have been interrupted by an invasion of the Scythians, which drew off Cyaxares; but at length Nineveh was taken and destroyed about [illegible] B.C., or according to Rawlinson, 625. In the time of Darius Hystaspes, A. rebelled without success in conjunction with Media. In the time of Herodotus the capital had ceased to exist; and when Xenophon passed it, the very name was forgot, though he testifies to the extent of the deserted city, and asserts the height of the ruined walls to be 150 feet. An inconsiderable town seems to have existed on its ruins in the reign of Claudius; and the last notice we have of Nineveh in the classics is in Tacitus.

The fanciful history related by Ctesias is now found to be based on distorted Greco-Persian traditions, and though the writer managed to make the ancient world give credit to him in preference to Herodotus, his work is now proved to be very untrustworthy. According to him, for thirty generations after Ninyas, the kings led a life of luxury and indolence in their palace; the last of them, Sardanapalus, made a vigorous defence against Arbaces, the rebel governor of Media, but finding it impossible to defend Nineveh, he set fire to his palace, and burned himself with all his treasures: this event took place 1306 years after Ninus. Now, the above account represents Nineveh to have perished nearly three centuries before the real date, which was about 606 B.C., and is utterly incompatible with Scripture. Herodotus assigns to the empire a duration of 520 years, and Berosus of 526. In order to reconcile these conflicting accounts, historians have supposed that Nineveh was twice destroyed, but this supposition is now generally rejected. However, that that part of Nineveh was actually destroyed by fire is proved from the condition of the slabs and statues found in its ruins, which show the action of intense heat.

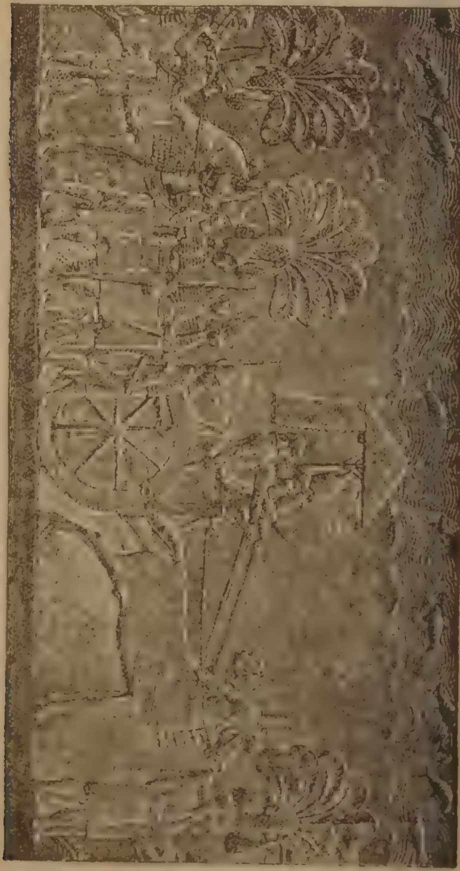
A. became a Median province, 606 B.C., and afterward, in conjunction with Babylonia, formed one of the satrapies of the Persian empire. In 331 B.C., at Gaugamela, near Arbela, in A., Alexander defeated Darius Codomannus. In 312 B.C. A. became part of the kingdom of the Seleucidæ, whose capital was Seleucia, on the Tigris. It was afterward subject to the Parthian kings, whose capital was Ctesiphon, and was more than once temporarily in possession of the Romans. When the Persian monarchy of the Sassanides was destroyed by the successors of Mohammed, A. was subject to the califs. Their seat was Bagdad from 762 A.D. till 1258. It has been under the Turks from 1638, at which period it was wrested from the Persians.

Monumental History. The Babylonian monarchy was already growing old before the Assyrian began. The early rulers of Assur were mere governors appointed by the Babylonian kings. They gradually acquired more power until they managed to set up an independent kingdom at Assur (about 60 miles below the later capital, Nineveh), in the 17th or 16th century B.C. A constant border warfare was long kept up, though alliances were made from time to time, and even cemented by marriages, as when Burna-Burvas of Babylon married Muballidhat-Serua, the daughter of Assur-ubalidh, about 1400 B.C. The first Assyrian king other than a patesi or viceroy was Bel-kapkapu. His rule extended along both sides of the Tigris; but, under his successors, the boundaries varied with the vigor of each king. The kingdom first began to be powerful under Rimmon-nirari I. (about 1320). His son Shalmaneser I. founded Calah, and his grandson Tiglath-Adar I. had become so powerful that he invaded Chaldea and captured Babylon in the year 1290. His descendant in the third line of kings was Tiglath-pileser I. (about 1130), the real founder of the first Assyrian empire. The reign of this prince, Tiglath-pileser I., son of Assur-risilim I., forms the zenith of the early empire. He spread the dominion of A. over all Western Asia, from the frontiers of Elam to the shores of the Mediterranean, and from the [illegible] of the mountains of Armenia, the land of Urartu, to the shores of the Persian Gulf. He captured Babylon, Sippara, and Upper Opis, and reduced Chaldea to the position of a tributary state. On the west he advanced as far as [illegible] the Euphrates and capturing [illegible] the language of the people of [illegible]. He repaired [illegible] the palace of [illegible] the temples of Anu and Rimmon [illegible] his father [illegible] into [illegible] consolidated [illegible] the horizon of Western Asiatic history [illegible] tribute to the [illegible] contemporaneous with the rise and rapid development of the Hebrew kingdom under David and his successors.

[illegible] and a new dynasty was founded [illegible] nirari II. (911-889 B.C.) and great-grandson Assur-natsir-pal (883-858 B.C.), by a long series of cruel wars, once more established the power of A. All the old provinces of the former empire were recovered, and extensive annexations made in the regions to the north-east in Armenia and Kurdistan. During the period of the middle empire, the capital was removed from Assur to Calah (Nimroud), at the junction of the Tigris and Upper Zab (Lycus), about 20 miles below Nineveh, where elaborate temples and palaces were erected by the kings. Assur-natsir-pal was succeeded in 858 B.C., by his son Shalmaneser II., whose annals are found inscribed on the famous Black Obelisk in the British Museum, and on the bulls and slabs from his palace at Calah. For more than thirty years he carried out year by year a series of campaigns which established the power of A. over all Western Asia. His reign is, however, most important for the fact that during his rule the Assyrian and Hebrew annals are first brought in contact, and a valuable series of synchronisms established, which is maintained until the fall of both kingdoms. In the year 854 B.C. Shalmaneser defeated in the battle of Karkar, fought in the Orontes valley, a powerful confederation of allied Syrian tribes, of which the chief leaders were Benhadad, king of Damascus, Irkhulem, king of Hamath, and Ahab, king of Israel, the latter contributing 2000 chariots and 10,000 foot soldiers. Again, in the eighteenth year of his reign, the Assyrian king invaded Syria, and defeated Hazael of Damascus in a battle fought on the heights of Hermon or Shenir (Deut. iii. 9), and captured 1121 chariots and 470 carriages. He then besieged and captured Damascus, destroying the beautiful garden which then as now fringed the city, and after marching into the Hauran, where he destroyed many cities, he returned and held a tribute 'durbar' at Beyrout, near to which city his statue is carved on the rocks at the mouth of the Nahr el Kelb. Here he received tribute from the Tyrians, Sidonians, and Yahua abal Khumri, 'Jehu, the son of Omri.' To the Assyrians Samaria was known as Bit Khumri, 'the house of Omri;' and so Jehu was regarded as one of the line of Omri. The tribute paid on this occasion indicates the wealthy condition of the Israelite capital; 'silver, gold, a bowl of gold, cups of gold, pitchers of gold, and a sceptre for the king's hand.' The reign of Samas-Rimmon II. (823-810 B.C.), the son of Shalmaneser, who succeeded to the throne after a rebellion and civil war lasting two years, added largely to the eastern provinces, and the Assyrians came for the first time in contact with the Aryan invaders who were advancing from the north-east.

In the year 763 B.C. the Assyrian eponym canon records the observation of a solar eclipse in the month Sivan, which is now identified as that of the 15th of June. This eclipse forms the pivot point on which Assyrian chronology turns. The empire now began to display signs of weakness, and when Assur-nirari ascended the throne in 753 B.C. there were many indications of a spirit of revolt. This is indicated by the statements in the eponym canon. Arpad in Syria revolted, and for four years the army remained at home, owing no doubt to the disturbed state of the country. An attempt was then made to repress the revolts in Namri or Kurdistan, which apparently failed, for in the year 746 B.C. we have a revolt in Calah, which indicates a rebellion of the army, followed by the usurpation of the throne in 745 by Pulu, or Pul, a Babylonian who assumed the Assyrian name of Tiglath-pileser II. Like his early namesake he proved the savior of the nation and at once instituted an entirely new system of government of the provinces of the empire. In former times it was conquest and spoil rather than annexation and annual revenue that formed the policy of the rulers of A. Tiglath-pileser II., however, introduced a new system into the government, that of centralization. Conquered districts were now annexed and became satrapies ruled by Assyrian officials, and responsible for a fixed yearly revenue to the central government. The leaders of the national party in these regions were removed to A., and their place supplied by bands of colonists from other regions, as in the case of Samaria, Arpad and Hamath. Another great aim of the new sovereign was the control of the great commercial centres in Western Asia. Thus Carchemish and the cities of Phœnicia were objects of campaigns to secure the trade route through Syria. In 742 B.C. Arpad revolted and was besieged two years by the Assyrians, and its subsequent fall brought about the conquest of North Syria. Hamath, then in alliance with Uzziah, king of Judah, and whose king [illegible] may have been, as Professor Sayce suggests, a Jewish nominee, was taken by storm, and the kings of Syria hastened then to pay homage to the conqueror. Among the names mentioned in the inscriptions we find Menahem, king of Samaria, Rezin of Syria (Damascus), Hiram of Tyre, Pisiris of Carchemish. This was the campaign referred to in the Scriptures (2 Kings xv. 19), when Menahem gave a thousand talents of silver to Pul, king of A. The successful war in Syria and Palestine was followed by campaigns in Armenia on the shores of Lake Van. The Assyrians next appear in Syria as the allies of Ahaz, called Yahua-khazi, or Jehoahaz, by the Assyrian scribes. The result of this campaign was the siege of Damascus, and the ravaging of the kingdoms east of Jordan. The fall of Damascus made Syria a province of the court of Nineveh, and the tribute lists discovered by Sir Henry Layard at Nineveh show Carchemish, Damascus, Arpad, Arvad, Hamath, Tyre, Sidon, and Samaria as contributing a regular sum to the national revenue. Having reduced the west to submission, the Assyrian king now attacked Chaldea, and after a severe war, commencing in 731 B.C., he defeated and slew Ukin-ziru, the Kinziros of the Canon of Ptolemy, and was proclaimed king of Sumir and Akkad in 729 B.C.

This important reign ended abruptly in 727 B.C., and a weak prince, Shalmaneser IV., of whom no inscriptions are extant, ascended the throne. He made an ineffectual attempt to capture Tyre, which had revolted, and during the siege either died or was murdered at the instigation of Sargon, 'the Tartan' or commander-in-chief of his army. The usurper continued the war in Syria, and in 720 B.C. captured Samaria and carried away 27,280 of the leading inhabitants, and placed them in the province of Gozan, near the Kabour, and in Media. The latter days of the reign of Tiglath-pileser II. evidently had been marked by a general revolt of the provinces, which Sargon had to reconquer; and in the battle of Raphia on the borders of Egypt, which terminated the war, he checked the advance of the Egyptians under Sabako. In 717 B.C. the Hittite capital, Carchemish, fell, and produced the rich spoil of 'eleven talents, thirty maneh of gold, and two thousand one hundred talents of silver.' All this time the intrigues of Merodach-baladan III. in Chaldea were causing trouble, but the disturbed state of the other provinces still kept Sargon from the object he most desired, the conquest of Babylon. In order to delay the attack, Merodach-baladan sent his embassy to Hezekiah, and raised a revolt in Syria, in which Phœnicia, Moab, Edom, and Philisti, supported by the Egyptians, took part. Sargon besieged Jerusalem and burned Ashdod (Isaiah xx. 1). Having quelled the revolt, Sargon invaded Babylonia, and after a terrible campaign captured the capital, Merodach-baladan taking refuge in flight, and was proclaimed king 710 B.C. Tablets dated in his reign as king of Babylon are preserved in the British Museum. Sargon built for himself a magnificent palace called Dur Sargon, 'Fort Sargon,' marked by the ruins at Khorsabad, about 15 miles from Nineveh. This palace was explored by M. Botta for the French government, and the fine sculptures from this site form one of the treasures of the Louvre. The bas-reliefs, sculptured figures, and architectural decorations of this palace show a new departure in Assyrian art, and indicate foreign influence. Sargon was killed during a revolt of the soldiers in the new palace on the 12th day of the month Ab (July) 705 B.C., when his son Sennacherib succeeded him. The annals of Sennacherib are only known to us for eight years of his reign. The Babylonian revolt on the death of Sargon led to the return of Merodach-baladan, but nine months later he was defeated by the Assyrians in the battle of Kisu. At the same time a revolt broke out in Philistia and the people of Ekron having deposed the Assyrian nominee Padi sent him for security in chains to Hezekiah, king of Jerusalem, who placed him in prison. This brought on the Jewish king the vengeance of Sennacherib. Having conquered Phœnicia, he marched against Ekron, where he punished the chief priests and Philistine lords who had broken their oaths to A., defeating the allies on the plain of Eltekeh, where they were aided by a strong contingent of Egyptian troops. He next ravaged Judæa, capturing forty-six cities, mostly in the hill country, and then advanced to Jerusalem. Here he states he shut Hezekiah up in the capital 'like a bird in a cage.' There is no indication in the inscriptions how long this siege lasted, and the meagre account of this event in the campaign, and the remarkably abrupt termination of the account seems to indicate that the siege terminated in a disaster to the Assyrian arms. The tribute paid by the king was sent by an envoy to Nineveh, not paid on the surrender of the city; and this, together with the fact that Sennacherib never again



Sennacherib at the head of his Army. (Height, 38 inches.—British Museum.)

entered Palestine, seems to confirm the statements of the Hebrew writers.

The statement as to the murder of Sennacherib by his sons meets with a [illegible] confirmation from the inscriptions. In the Babylonian chronicle, we are told that on the 20th of the month Tebet (December) 681 B.C. the king was slain by his two elder sons, who were jealous of the favor shown to their younger brother Esarhaddon, who was at the time serving with the army. Seven weeks later, Esarhaddon overthrew his brothers, together with their ally, Erimenas, king of Armenia, at Malatiyeh in Cappadocia, entered Nineveh in triumph, and placed himself upon the throne. Though the most active general of his father, Esarhaddon was far more than a mere warrior. He possessed great political tact, and at once inaugurated a new policy with regard to the troublesome court of Babylon. He divided the court between Babylon and Nineveh, residing at the former place during the winter, the latter in the summer months. It was during one of these periods of the winter court at Babylon that Manasseh was brought prisoner (2 Chron. xxxiii. 11). A son of Merodach-baladan had attempted during the period of anarchy to seize the throne of Babylon, but being defeated, he fled to Elam, where he was put to death by the Elamite king, who wished to preserve the friendship of the king of Assyria. In [illegible] the Assyrian king commenced one of the most important wars in the whole period of Assyrian history, namely, that which resulted in the subjugation of the powerful kingdom of Egypt to the Assyrians, and left the ancient world under one rule for twenty years, thus first giving to the world the idea of universal empire. After the war had waged with varied success for more than three years, the Assyrian king made one great effort to terminate it. A very powerful army left Nineveh the first day of the year, and took the road to Egypt. The march occupied three months, and on the Assyrians having reached the Egyptian strongholds, a series of battles was fought, resulting in the retreat of the Egyptians on Memphis, which was captured by the Assyrians on the 22d of Tammuz (June), whereupon King Tirhakah fled up the Nile. Esarhaddon returned by way of the coast of Syria, receiving *en route* the tributes of the Phœnician and Greek kings of Cyprus, and the Philistine, Moabite, and Israelite rulers. In commemoration of this successful campaign, the king had his statue carved on the rocks at Bal Rasi (Nar el Kelb), and an inscription recording the capture of Memphis engraved upon it. Before leaving Egypt the Assyrian king divided the newly conquered land into twenty satrapies, ruled by prefects subject to the court of Nineveh.

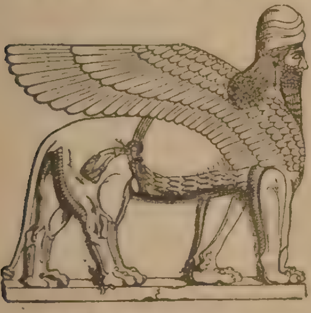
The Egyptians did not long remain quiet after the departure of the main body of the Assyrian army; for Tirhakah returned from the Upper Nile, and the Assyrian king had once more to prepare for a campaign in the Nile valley. During his absence with the main body of the army in Egypt in the previous year, a revolt had been raised in [illegible]; so the king, to guard against the repetition, elected Assurbanipal, the eldest of his four sons, king, and placed him on the throne to rule in Nineveh, 12th Iyyar (April) [illegible]. Two years later, during the campaign, on 12th Marchesvan (October) [illegible], Esarhaddon died with the army. Assurbanipal [illegible] [illegible] [illegible], but he lacked the genius of his father. He was a [illegible] patron of art and letters, and his reign was the culminating point of Assyrian splendor. He continued the Egyptian war, and advanced from Memphis to Thebes, which city he captured and stripped of its treasures. Phœnicia was next [illegible], and Tyre captured after a siege lasting some months. [illegible] [illegible] Elam and in Northern Arabia next occupied the [illegible]. The empire was now shaken by one of the most serious [illegible] [illegible] against the government. Acting probably on the [illegible] [illegible] [illegible] Assyria, [illegible] had appointed his brother, [illegible], the Saosduchinos of the Canon of Ptolemy, [illegible] [illegible], who, taking advantage of the absence of the [illegible] in various lands, rose in revolt aided by the [illegible] [illegible] and by the Egyptians under Psammetichus. The [illegible] [illegible] [illegible] [illegible] and [illegible] Babylon, Borsippa, [illegible] [illegible] [illegible] taken and fire, sword, and [illegible] [illegible]. The rebellious prince burned [illegible] [illegible] palace with some of his followers.

[illegible] [illegible] [illegible] the dismemberment of the empire, and [illegible] [illegible] [illegible] [illegible]. Egypt declared her independence. [illegible] [illegible] [illegible] and the north-eastern provinces [illegible] [illegible] [illegible] the new viceroy of Babylon, [illegible] [illegible] [illegible] Nabopolassar, father of Nebuchadnezzar, [illegible] threw off all semblance of his allegiance [illegible] [illegible]. Assur-etil-ilani succeeded his father about [illegible]. He rebuilt the palace of Calah, and bricks bearing his inscriptions have been found there. The last Assyrian king was Esar-haddon II. (the Sarakos) of Ctesias. There are some tablets relating to this prince which show that during his rule the north-east provinces were invaded by a powerful confederation of Aryan and Turanian tribes, Medes, Gimmerians, and Armenians, under the command of Kaztaritt (Cyaxares). The meagre character of the inscriptions about this date, and the apparent number of claimants to the throne, indicate that after the death of Assur-bani-pal a period of disruption and anarchy set in, followed about 606 B.C. by the siege and destruction of Nineveh, after which A. became a Median province. The Mespila mentioned by Xenophon in the 'retreat of the Ten Thousand' was probably the Musipbi of the inscriptions, 'the lower town;' the acropolis having been destroyed. The remains of Sassanian art found by explorers on the site indicate that the town was occupied then and in Roman times.

Chronology. The chronology of the Assyrian empire now rests upon a very firm basis, being founded on several carefully prepared chronological inscriptions. The most important of these is the 'Eponym Canon,' a tablet containing a list of the archons, or eponyms of Nineveh or Calah, giving an exact chronology from 913-659 B.C. As each of these officials ruled in office only one year, the year was named after them; and as the date of the official year of Bursagalu is fixed by a solar eclipse, the dates of all the officials can be ascertained. Fragments of seven copies of it were discovered by Sir Henry Rawlinson in 1862. An historical inscription of Rimmon-nirari I., dated on the side by the name of the eponym of the year, enables us to go back as far as 1330 B.C. A recent discovery has brought to light a table of Semitic Babylonian kings, arranged in dynasties, traced back as far as 2330 B.C. The dated contract tablets give us further help for the later dates. The parallel Assyrian inscriptions give much help in settling the chronology of Babylonia.

Government. The government during the early and middle empires was a pure despotism and ruled by force of conquest, held together by the obligations of tribute and homage; but no centralization existed. In the reign of Tiglath-pileser II., an extensive system of central government with the accompaniment of bureaucracy was introduced. In conquered lands the native rulers were either removed and replaced by nominees from the Assyrian court, or a resident ambassador placed in the court. Tributary cities were ruled by prefects (pikhati) and sub-prefects. Revenue was levied by collectors from all towns and districts, and an annual present from the native princes. In home government the Assyrians modelled their system on that of Babylonia. Taxes were levied on all produce from towns and villages, and tithes for the temple revenues. Special taxes were levied for the army, the river flotilla, and the maintenance of the royal roadways. Justice was administered by appointed judges, the courts being held in the temples or in the city gates, with the right of direct appeal to the king. The king had absolute power over life and death, and offenders were treated with the greatest cruelty; impalement, decapitation, mutilation, and burning by fire, were the punishments inflicted. The king was feudal lord of all land, and could grant or take away any estates except those of the temples. Public works were carried out by corvées (forced bands of laborers) and captive labor, provisions for the workmen being provided by the state.

Religion. The religion of A., though essentially of Babylonian origin, was much simpler and though polytheistic in character, was free from the multitudinous pantheon of the more ancient empire. At the head of the pantheon was the god Assur, the national deity, always invoked first in the royal inscriptions, and regarded as the divine founder of the nation. He is called 'the holy one,' the 'glorious chief of the gods.' His name does not appear in the 'Chaldean Creation Tablet.' The Assyrian pantheon consisted of two principal triads, with numerous minor deities: (1) The Nature triad, whose birth is described in the Creation Tablet—Anu, 'the father of all the gods,' 'the Progenitor who changes not the decree coming forth from his mouth,' 'the lord of heaven,' 'the heaven.' Bel, the second member of the triad, is called 'lord of the world,' 'lord who protects the land.' He was the ruler of the earth. Hea, the third member, was one of the most important gods in the pantheon. He was 'lord of the sea, of rivers and fountains;' lord of wisdom and knowledge. (2) The Celestial triad.—This triad consisted of the moon-god, Sin, called the 'illuminator of earth,' 'the lord of waxing and waning,' 'the lord of laws.' The sun god, called Shamas, 'the judge of heaven and earth,' 'the lord of light,' 'the driver away of evil.' The sun god was one of the gods most worshipped in the Assyrian pantheon; and the morning and evening hymns to this deity are among the most beautiful specimens of Assyrian sacred literature. Istar, the third member of this triad, was the goddess of the crescent moon, and the 'queen of the stars.' Strictly speaking, the goddess Istar was the only goddess in the Assyrian pantheon, and she assumes many and varied attributes. She was also 'queen of war and battle,' 'the archeress of the gods.' Among the minor divinities, the most important was the god Marduk or Merodach, the son of Hea. This god occupied a most important position; he was 'the mediator between gods and men,' 'the protector of mankind,' the 'god who raises the dead to life.' The goddess Zirat-banit, the Succoth-benoth of the Bible (2 Kings, xvii. 30), appears but little in the Assyrian inscriptions, though most often invoked in those of Babylonia (q.v.). Next in importance was Nebo, the god of learning, and his consort Tasmituv. The libraries in Nineveh and other cities were all dedicated to this god, and the epithets applied to him indicate that he was the Assyrian Hermes. He is called 'the wise god,' 'the lord of illustrious birth,' 'the enlarger of the mind,' 'the writer of inscriptions.' Nergal (2 Kings, xvii. 30) and Nusku were the gods of war and hunting, and the former also the god of death, with the title of 'the great devourer,' to whom the winged lions at the temple or palace gates were dedicated. The two gods of Sepharvaim, Adrammelech and Anammelech, are to be identified with Adar-malik, 'the god of the noon-day sun,' and Anu-malik. Anu, the father of the gods. Most of the other minor divinities were those worshipped principally in Babylonia. The religious ceremonies of A. bore a close resemblance to those of Babylonia, the temples being orientated to the north-east, and the holy place separated from the nave by a veil. The morning and evening sacrifice, the offering of cakes, wine, milk, and honey, are found in the liturgies of the temples. See BABYLONIA.


The god Nergal.—(British Museum.)

Ethnology.—The Assyrians, it is now generally acknowledged, were a branch of the Semitic family of nations, and therefore were members of the same grand division of the human race as the Syrians, the Phoenicians with their colonies, the Jews, and the modern Arabians. Long prior to the 21st century B.C., Semitism, as a distinct ethnic element, appears to have first established itself in Chaldea. The races variously called Scythic, Turanian, or Tartar appear to have once been spread over the whole space from the Caucasus to the Indian Ocean, and from the Mediterranean to the mouths of the Ganges. Their type of language has continued to our time to exist in the greater part of Asia, and in some of the remoter corners of Europe, as among the Finns, Lapps, Turks, and Hungarians. In Chaldea they were the dominant race until about the 21st century, when the pressure of eastern invaders, Elamites, etc., forced the Semites from Chaldea. Then seems to have commenced a series of emigrations. Asshur went forth, probably at this time, from Babylon to Assyria; Abraham and his followers to Palestine. From these stocks, Semitism was afterwards carried to Cyprus, to the southern coasts and countries of Asia Minor, to Carthage, Sicily, Spain, and Western Africa.

The traditions of A. preserve a very early connection between Ethiopia, Arabia, and the cities on the Euphrates. Mesopotamia undoubtedly contained a large proportion of Arabs, and this accounts for the fact that Herodotus styles Sennacherib king of the Arabians and Assyrians. The Chaldeans, colonies of whom were planted in Armenia by the Assyrian kings, were probably removed from the south. But the Sumirian Akkadian races (see BABYLONIA) are now shown to have inhabited Babylonia from the remotest times, and by them the earliest civilization in Mesopotamia was originated (see CUNEIFORM INSCRIPTIONS).

In language, Assyrian is clearly allied to the northern branch of the Semitic family. The vocabulary has a close affinity with Hebrew and Phœnician, while in the full development of the verbal conjugation, the use of numeration, and its richness of synonyms, it approaches nearer to the Arabic. The predominant features of the Assyrian ethnic type are Semitic, but modified by intermixture with Akkadian and other elements.

Literature and Civilization. One of the most important results of the explorations has been the discovery, in the palace of Assurbani pal at Nineveh, of a large library consisting of many thousand tablets, large numbers of which are now stored in the British Museum. This library, in all probability, owes its origin to the keen political insight of Esar-haddon, but was completed by his son Assur bani pal, whose name most of the tablets bear. In the colophon or docket attached to each tablet, the king says: 'The wise things of Nebo, all there was on tablets I wrote, I engraved, I explained, and, for the inspection of my people, in my palace I placed.' A careful study has been made of the tablets in this library, and it is evident it was chiefly composed of tablets copied from more ancient originals in the temple libraries of Chaldea, each being stated to be 'like its old copy,' or 'like the ancient tablets of Sumir and Akkad.' That such was the case is now demonstrated by the discovery of duplicate copies in the libraries of Babylonian cities. The library was evidently founded to prevent the youth of A. from going to be taught at Babylon or Borsippa, where they would be subjected to dangerous political influences. Its educational character is shown by the discovery of a number of syllabaries, dictionaries, and text books for instruction in the ancient Akkadian and Sumirian languages. These tablets, called by the Assyrians 'tablets to be with him' (hand-books), were the class books of the students in Nineveh, and have been the medium by which the decipherers have learned the older languages of Chaldea (Lenormant, Études Accadiennes). In this same section we find works on mathematics, tables of square and cube roots, as well as lists of plants, metals, and precious stones, animals and birds. The geographical works appear to be limited to lists of countries with their products, such as 'Lebanon cedars,' 'Elam horses,' 'Cilicia tin and silver,' and 'Arabian camels.' The section, however, which has been most prolific in discoveries has been that of poetic and mythological literature. In 1872 the late George Smith, of the British Museum, discovered a series of poetic legends relating to the great Chaldean hero Gizdhubar, or Izdubar, the eleventh tablet of which contained a legend of the Deluge, very closely resembling the Hebrew account. This series of tablets was found to consist of twelve books of an epic poem, describing the labors of Gizdhubar, the various episodes of whose career are arranged according to the sun's passage through the signs of the zodiac, the Deluge tablet being the eleventh, corresponding to the eleventh sign, Aquarius. From three duplicate copies and numerous fragments scholars have been able to obtain a nearly complete text of this important tablet, and the resemblances which it presents to the Hebrew narrative are even more striking than was at first recognized. The flood is sent as a punishment for sin; the builder of the ark is called Samas-napisti, 'the living sun'; he gathers into the vessel all his male and female servants, and young men, and all the beasts of the field. The preparation of the ark occupies seven days; the rain lasts seven days; [illegible] ing the mount Nizir [illegible] and the gods smell the sweet [illegible] by the intercession of [illegible] and sealed by the appearance of the great bow [illegible] had created for his glory.' The resemblances are very striking, but there are also differences, especially local features, which show that the traditions are not copied from one another, but probably have a common origin in an older tradition. The discovery of these legends was followed shortly after by the discovery of an [illegible] portant series of cosmogonic legends. The close resemblance which they present to the Hebrew Genesis story is well illustrated by the first legend, which may be thus translated: "When as yet the heavens were unnamed and below on earth a name was not recorded. The ocean the glorious was the father of them. The chaotic sea was the mother of them all. Their waters were joined in one. The darkness was not withdrawn (and) no flower had opened. When as yet the gods had not come forth any of them. By name they were not called. Order did not exist," etc. The resemblance to the first chapter of Genesis is most remarkable, as also in the other fragments. The psalms, hymns, and prayers also are most poetic and beautiful in character.

Antiquities, etc.—The excavations carried out by Botta, Layard, Ménant, Oppert, Rawlinson, George Smith, and Rassam near Mosul, Khorsabad, and Koyunjik, have led to many very interesting discoveries. The palaces and buildings that have been laid open are full of sculptures, all covered with inscriptions, in deciphering which considerable progress has been made, and more may be expected. Among the most remarkable monuments now in the British Museum are two winged human-headed lions, 12 feet high, and as many in length; winged human-headed bulls of the same dimensions as the lions; winged sphinxes; and the famous obelisk of black marble, sculptured on the four sides. On this last are represented a victory, a prisoner prostrate at the feet of the king, and foreign people offering tribute, and leading such animals as the Bactrian camel, elephant, lion, and rhinoceros—animals, with the exception of the lion, found in Asia only far east of the Tigris. The bas-reliefs are very numerous, exhibiting especially war and hunting. The march, the onset, the pursuit, the siege, the passage of rivers, the submission and treatment of captives, secretaries noting the number of heads taken in battle, and the amount of spoil; the chase of the lion, of the antelope, of the wild ass, and other animals—such are the favorite subjects of the Assyrian sculptor. Nor are they treated in the conventional style of Egypt, but in a manner which, for grace, spirit, correctness, and delicacy of execution, excels everything else known in Asiatic art. The artists sometimes follow modes of representation different from ours; for instance, a bull has five legs given him, in order that from all points of view he may be seen with four; a ladder stands edgeways against a side wall, to show it is not a pole. From the bas-reliefs we learn little about the private life of the Assyrians. There are a few which represent the foddering of cattle, women riding on mules, etc.

It is natural to expect that Nineveh—a wealthy and luxurious city—imported many of the products of other countries, yet the manufactured goods would mainly be of home production. The jars, bronzes, glass bottles, carved ornaments in ivory and mother-of-pearl, engraved gems, bells, earrings, arms, utensils, are of excellent workmanship. The ornaments especially are in good taste, and evince considerable skill in the working of metals. Transparent glass was not unknown, nor the use of the lens as a magnifying agent. The Assyrians knew the principle of the arch, the use of the lever and roller, and the construction of aqueducts and drains. In the arts of peace they appear to have been not inferior to any ancient nation; while their conquests, and the long duration of their empire, suffice to prove their capacity for war.

(For the archæology see the books by Botta, Layard, Oppert, George Smith, and Perrot and Chipiez, Chaldée et Assyrie (1884), vol. ii of their Histoire de l'Art dans l'Antiquité (Eng. trans., 1884). For the history see Rawlinson on The Five Great Monarchies of the Ancient Eastern World (4 vols., 1862-67); Oppert, Histoire des Empires de Chaldée et d'Assyrie d'après les Monuments (1865); Lenormant, Manuel d'Histoire ancienne de l'Orient (3 vols., 1869); Ménant, Annales des Rois d'Assyrie (1874); Maspero, Histoire ancienne des Peuples de l'Orient (1875; 4th ed., 1886); and Sayce, Ancient Empires of the East (1884). For the language see the grammars of Sayce (1872 and 1875), his Lectures on the Syllabary and Grammar (1877), and the dictionaries of E. Norris (1868-72) and Delitzsch (1887). For the religion see the comparative history by Tiele (Dutch, Amsterdam, 1872; French trans., 1882; English trans., vol. i, 1882), and Sayce's Hibbert Lectures (1887). See also the following general books: Sayce's Assyria: its Princes, Priests, and People (1885), and Fresh Light from the Ancient Monuments (3d ed., 1886.)

AUSTRALIA.—1.

AUSTRALIA, *aws-trā' li-a:* by far the largest island on the earth's surface, and for extent describable as a continent, lies between 10° 39' and 39° 11½' s. lat., and between 113° 5' and 153° 16' e. long.; having a maximum length, from w. to e. (from Dirk Hartog island to Point Arkwright), of about 2,400 m.; and a maximum breadth, from n. to s. (from Cape York to Wilson's promontory), of 1,971 m.; making a total area of 2,954,417 sq. m. (excluding Tasmania, 26,215), about one fourth less than that of Europe, or nearly twenty-five times that of Great Britain and Ireland. Its nearest distance to England is about 11,000 m. It is separated from New Guinea by Torres strait, 90 m. broad, and from Tasmania by Bass strait, 140 m. wide; on the n.w., w., and s., it is washed by the Indian ocean; and on the e., by the South Pacific.

The name A. in its present signification was first suggested by Capt. Flinders, and adopted by the colony about 1817; but the word was used in Purchas his Pilgrimes (1625) and other old works for the unknown southern continent.

This island continent is, above all other continents, exceedingly compact, with an almost unbroken outline on the e. and w. Parallel with the e. coast, at a distance of about 60 m., stretches for 1,200 m. the Great Barrier Reef, offering but one safe opening for ships. The sea encircling A. is, on the whole, comparatively shallow. At a distance of from 300 to 500 m., however, on the e., s., and w. coast, a depth of 15,000 feet is attained.

The absence of rivers communicating between the coast and the interior is remarkable. The mountains rising to any great elevation are all on the e. side; and there is but one great river, the Murray, collecting into itself by the Darling and other great tributaries, almost the whole w. drainage of that e. range. The few mountains on the w. side of the continent feed but a few short intermittent streams, and a large expanse, between a narrow strip of occupied country on the w. coast and the overland telegraph line, appears to be but a slightly relieved barren dessert. The lack of natural irrigation over this arid area is further aggravated by the enormous evaporation, which for long periods dries up such rivers as it possesses.

Physical Features.—The mountains of Victoria are noticed in the description of its geology. The e. highlands of A., running parallel with the coast for some 1,700 m., now in a series of ranges, and now in a single chain or series of detached hills, are continued into New South Wales by the Warragong, or Australian Alps, where in Mt. Kosciusko (7,308 ft.) the continent attains its highest elevation. Thence upland valleys merge n. into the Blue mountains, which, again, send offshoots toward the Liverpool range, that, sweeping e. and w., curve round the s. edge of the Liverpool plains. The main chain skirting the e. of New England, runs n. to the frontiers of Queensland, where it branches into an e. arm, the Macpherson range; and a w. arm, the Herries range. Inclosing the w. valley of the Brisbane river, and sinking n. to the valley of the Burnett, is the dividing range of Queensland, from whose w. side slope the Darling Downs. To the n. of the Brisbane and Condamine rivers, the highlands expand to their greatest breadth, but contract again to the n. of the Fitzroy river into a comparatively narrow chain, which sinks into the depression of the valley of the Burdekin. N. of this river, uplands, with an average elevation of 2,500 ft., again start n., terminating at 16° s. lat. In S. A., the Mt. Lofty range skirts the e. of St. Vincent gulf, and the Flinders range the e. of Spencer gulf and Lake Torrens.

Almost the whole of the vast region in the s.e. of A.—the e. part of S. A., Victoria, New South Wales, and Queensland—is drained by the Murray and its tributaries, whose arterial system has an area of about 500,000 m., an area twice as large as the Austrian empire. The Murray, rising in the Australian Alps, flows between Victoria and New South Wales, then through S. A., discharging, after a course of 2,345 m. from the source of the Darling, one of its principal tributaries, into Encounter bay in the Indian ocean, shortly after passing through Lake Alexandrina. On its s. or left bank it receives all the n. streams from the mountains of Victoria, the principal of which are the Goulburn and Loddon. On its n. or right bank it absorbs all the s.w. rivers from the e. highlands, the principal being the Murrumbidgee (1,350 m. long), which also rises in the Australian Alps and collects the waters of the Lachlan; and farther w. the Darling (1,160 m.), which has for its tributaries the Barwan, Culgoa, and Warrego. North of the Murray, the two most important rivers are the Fitzroy and the Burdekin in Queensland. The other rivers to the e. of these highlands are short and rapid, little fit for navigation. All these hilly and partially river lands consist of grassy park-like uplands clothed with scattered thin forests of magnificent trees, for the most part evergreen and vertical leaved, diversified by bush and heath and scrub; all of excellent pasture, intersected by wide valleys of remarkable fertility well adapted for agriculture.

From the head of the gulf of Corpentaria stretches a tableland w. along the border of the gulf and the base of Arnhem Land, then s.w. along the coast, pierced by the Flinders river, the deep valley of the Alligator, the Roper, and the Victoria; the latter two navigable for a considerable length, and flowing through fertile lands and picturesque scenery.

Western A. toward the coast, is in its n. half crossed by ranges of detached mountains, running mostly e. and w., and intersected by the fertile valleys of Ashburton, Gascoyne, and upper Murchison. A large part of its interior consists of a barren tract of salt or mud steppes, almost destitute of fresh water, and extensively overgrown with dreary thickets. In the s., it is pierced by the upper Swan river and the Blackwood. On the s. coast, from King George's sound to Spencer gulf, is neither mountain nor river.

To the n. of Spencer gulf is an area of some 1,000 sq. m., set with lakes, 'the lake district' of A.; Torrens, straight to the n. of Spencer gulf, over 100 m. long, with Eyre to the n. of it and much larger, and Gairdner to the w. of it. To the e. of Eyre are Lakes Blanche and Gregory; and far to the n.w., Lake Amadeus. These dead masses of salt water fluctuate greatly in body as the season is dry or rainy, now sheets of water, and now almost grassy plains, set in the dreariest wide-spreading steppes. A comparatively verdant belt of country lies to the e. of this district, and runs to the extreme n., as the axis of A., along the telegraph line.

Geology. So far as is known, A. would seem to be built up chiefly of Palæozoic and Cainozoic or Tertiary formations, though Mesozoic or secondary deposits have of late also been laid open in various quarters. In Victoria, the Grampians and Pyrenees with the Ballarat gold fields to the s. in the s.w., the great dividing range, and in the n.e. the Warragong or Australian Alps; in New South Wales, the Blue mountains; and in Queensland, the dividing range, all consist principally of Silurian strata, broken in upon, however, by intrusive granite, syenite, etc. The same Silurian formation largely pervades S. A., running in a broad diagonal from the s.e. coast, north-westward across the whole province. Though igneous rocks occupy a large area to the s. and w. of W. A., traces of Palæozoic formations are to be found in the Darling range. No carboniferous rocks are known in s. and w. A. Detached patches of metamorphic rocks occur in Queensland, along the central line of the continent from Ashburton to the Macdonnell ranges, and in the n.w. of Arnhem Land. The older settlements of New South Wales, including the coal-field of the Hunter river, rest on sandstones. Fossiliferous carboniferous strata, abounding in fine coal, extend over 50,000 sq. m. of Queensland, between 25° and 15° s. lat. The tin mines of Queensland occur in granite, rising through the carboniferous rocks. Sandstone and limestone, of carboniferous or permian formation, are found in the s.e. of Victoria; and the two s. peninsulas of this province consist largely of limestone and carbonaceous deposits of Mesozoic age. The secondary formations lie principally, however, in Queensland, where cretaceous beds extend for about 200,000 sq. m., from near the gulf of Carpentaria to the s. of the Darling river. The valley of the Wannon, which runs into the Glenelg river, consists of Mesozoic strata, while the coal deposit of Parramatta to the n. of Sydney is likewise of Mesozoic age. The Clarence river to the n. of New South Wales runs through Triassic strata.

Tertiary deposits, mostly pliocene, it is supposed, occupy an immense area of A., comprehending the desert sandstone, the coral limestone, and a large part of the conglomerates and clays of the gold diggings. In w. A., to the e. of the region of igneous rocks, the surface is occupied by desert sandstone, which also stretches n. and e. far into the interior, covering it likewise in S. A. outside of the diagonal Silurian bed already described, penetrating into the interior parts of Victoria and New South Wales, and skirting the edge of the cretaceous strata of Queensland. The earliest discoveries of gold in A. were made in recent and Tertiary alluvia. The older auriferous drifts are believed to be of Tertiary age. These drifts are found filling up old valleys, and covering the low grounds that spread out from the base of the mountains. They appear to be all of fresh-water origin, vegetable remains, trees, fruits, etc., occurring not unfrequently in the various beds. During their accumulation volcanic action was rife, and sheets of lava were poured over the surface at successive intervals, so that in sinking shafts through these 'drifts,' the miner sometimes penetrates three or even four separate beds of lava. The gold is usually met with at the very base of the drifts, in the 'gutters' or 'leads,' which are just the bottoms of the old filled-up valleys. It may be added, that although gold is still obtained from such 'drifts,' yet the chief supply now comes from quartz veins.

Quaternary deposits, forming 'flats' in the gold districts, occur in the Upper Macquarie and Upper Murrumbidgee rivers. These, with clay deposits in the Liverpool plains and Darling Downs of New South Wales, have yielded some very interesting fossils throwing light on the past fauna of A. A kangaroo, for example, has been found very much larger than any kangaroo of the present times (see DIPROTODON); also, a nototherium an animal between the wombat and kangaroo as large as a rhinoceros. Remains have also been discovered of a bird, named by Prof. Owen dromaeornis, larger than an ostrich, kindred to the now existing emu and cassowary.

Though there are no active, yet numerous extinct volcanoes are to be found in A. In s. A., in the Gambier group, is a large series of them, which have broken through the horizontal coral beds, and whose craters now present beautiful lakes. In Victoria, a large part of the soil is volcanic, the débris of volcanoes of all periods down to the Tertiary. Looking from any high eminence in the neighborhood of Ballarat, you may count extinct volcanoes by the score, some nearly closed up; but others having rims of some miles in circumference, from a few to 100 ft. deep, some rising to a height of 2,000 ft. above the sea.

Minerals. Gold is distributed more or less through all the Australian colonies, but its principal seats are in Victoria, Queensland, and New South Wales. Diamonds and other precious stones have also been found in different parts of the continent. The carboniferous strata of New South Wales, extending over a vast area, are very rich in coal, the coal fields of that colony being among the most extensive in the world, containing also cannel coal and mineral oils. The whole basin of the Hunter river, with its tributaries, down to Newcastle on the seacoast, abounds in true coal of Palaeozoic age. Coal is found also at Cape Otway, and Western Port in Victoria, but belongs to the Mesozoic formation, and is not of great value. In the s. of Queensland is an oolitic coal field. Palaeozoic coal, of great extent and great prospective value, has been discovered in the central regions of that colony, along the basins of the Mackenzie and Dawson rivers; while near Brisbane and the upper courses of the Darling Downs rivers, almost equally extensive and valuable beds of coal of Mesozoic age have been found. Rich copper mines have been opened in the Palaeozoic limestone of s. A. The most important of the earlier mines was the Burra Burra, 90 m. to the n. of Adelaide, discovered 1845; after paying handsome dividends for many years, it has, however, been worked out. Still more extensive deposits of copper ore lie at Wallaroo and Moonta, at the n. end of York peninsula. Many other copper-mines have been opened in s. A., but consequent on the serious fall in the price of copper, operations have been suspended in most cases. Silver ore, principally argentite, is worked at Boorook, New South Wales, and mines of apparently inexhaustible wealth were discovered in 1884 at Silverton, in the Barrier Ranges. Silver-lead has been worked near Cape Jervis, s. point of peninsula w. of Alexandrina lake, and to south, at the headwaters of the Mt. Lofty range to the e. of Adelaide. Lead and copper exist largely in W. A., particularly in the n. districts; but only [illegible] tons of lead ore and 120 tons of copper ore were exported in 1885. Iron exists in large masses in W. and s. A., but in neither of these colonies has coal been found to work it. Very valuable tin-mines have been opened in Queensland, especially in the neighborhood of the Wild river, as also in the n. of New South Wales. Ores of antimony have also been worked in Victoria and New South Wales, and are known to occur in South Australia.

Mining. Mining is a great and growing industry of A., though gold mining has for some years been steadily declining. Gold is distributed more or less through all the colonies, but the chief mines hitherto opened are in Victoria, where are the seven mining districts: Ballarat, Sandhurst, Maryborough, Beechworth, Castlemaine, Ararat, and Gippsland, the first two being the most productive. The principal gold-fields in Queensland are the Peak Downs, Gympie, and Charters Towers. These gold fields employ a large number of Chinese. The total yield of gold in A. from [illegible] to 1886 was [illegible] ounces, valued at $1,299,757,771. In 1886 the yield of gold was 1,191,182 ounces, valued at $20,348,315. There are extensive coal-fields in New South Wales and Queensland; the produce in 1885 was 3,088,561 tons. S. A. is known for its rich copper mines, and there are productive gold-mines in its n. territory. Tin-mines of great value have been opened up in Queensland, and silver-mines in New South Wales.

Climate. In proportion to its size, A., lying mostly within the temperate zone, enjoys on the whole an equable climate, although subject to great occasional irregularities; in general, hot and dry, and remarkably salubrious. Within the tropics, it has its rainy season in summer (Nov. to Apr.); s. of the tropics, almost exclusively in winter. The principal mountains, both for extent and height, lying to the e. or windward side, receive by far the heaviest tribute of moisture brought by the winds from the Pacific; and, as a rule, the amount of rainfall on the e. side is in inverse proportion to the distance from the e. coast. The w. side has far less rain than the e., and there the rainfall is proportionate to the proximity to the w. coast. Thus, Sydney appropriates a mean of some 50 in. rain in a year, while Bathurst, 96 m. from the sea, gets only 23 in.; Deniliquin (287 m. removed) 20 in., and Wentworth (476 m.) but 14 in. Melbourne and Adelaide in the s. receive respectively 25 and 20 in. The Queensland coast takes from 40 to 80 in.; the w. getting proportionately less. The elevated lands of w. A. enjoy about 30 in. rainfall. What moisture is left in the winds after their passage across the highlands, the intense heat rising from the central plains tends to dissipate, instead of allowing it to condense into rain. The parched traveller over those arid deserts looks up again and again into gathering clouds which argue possibility of rain, but never do come to rain. South A., Victoria, and, in a less degree, New South Wales, are exposed to hot winds from the interior which rapidly raise the temperature of the lands they visit to 115° or higher, and are followed by an equally sudden fall. Melbourne has a mean temperature of [illegible]; Sydney, 63°; Adelaide, a little higher; Perth, about the same as at Sydney. Capt. Stuart found the mean temperature of the interior for three months over 101° Fahr. in the shade, and the drought such as to unloosen the screws of his boxes, split his combs into thin laminæ, make the leads drop out of his pencils, and his finger-nails become brittle as glass; the season was, however, an exceptional one, and good pastoral country exists within a short distance of what he described as the 'Stony Desert.' The e. highlands have a greater proportion of snow than their latitude and height would argue. At 5,000 ft. of altitude, in certain situations, snow lies all the year round, and many of the higher mountains are covered with snow all the winter. One fall, and one only, of snow is chronicled at Sydney, in 1836, June 28.

The worst feature in the climate of A. is the total uncertainty and inequality of the rainfall in all parts of the continent, menacing the whole country with almost equally distressing alternations of drought and flood. Droughts sometimes completely wither up vegetation over large tracts of land, to the destruction of many thousands of cattle; that of 1884 was said to have destroyed 10,000,000 sheep. On the coast of New South Wales hardly any rain fell in 1814-5, or in the years [illegible]. The ordinary drought itself renders almost all the rivers of A., with the exception of the Murray proper, merely intermittent; shrunk for months together into straggling water-holes, with or without some connecting thread of stream. As rivers, they really cease to exist for a longer or shorter period every year. Even the Murray is only navigable at certain seasons of the year. The rainy season, on the other hand, swells these pools into terrific floods, inundating the country, and often most seriously destroying property. The caprices of Australian drought and flood are well illustrated by the metamorphoses of Lake George, [illegible] m. to the s.w. of Goulburn, and having an elevation of 2,250 ft. above the sea. In 1824 Lake George was a sheet of water 20 m. long by 8 m. broad; in [illegible], a grassy plain; in [illegible] it was [illegible] ft. deep; in [illegible], 2 ft. deep; in 1876, 20 m. long and 30 ft. deep. If only the weather could within any approximate degree be calculated on, there are, no doubt, many tracts in the interior which could be utilized. Attention is, however, being directed to irrigation works on an extensive scale, and the governments of Victoria and S. A. are making arrangements to utilize the waste waters of the River Murray. Water for the use of stock in summer is extensively stored in dams, and large tracts of country with no surface water have been made available for settlement by sinking wells. In some districts where the geological formation is favorable, artesian wells have proved a success.

Botany. The vegetation of A. is altogether unique, standing at a long interval from that of all other quarters of the globe; but it is exceedingly abundant in species. These, it is calculated, number about 10,000, of which 8,000 have been already determined; considerably more than are to be found in all Europe. A peculiarity of the trees covering its seaboard highlands is their uniform sombre, olive shade, alike on upper and under surface, and the generally vertical direction of their foliage, which thus allows much freer entrance to the blazing summer sun. Another peculiarity of Australian vegetation is the 'scrub,' the 'mallee,' 'mulga,' etc., which presents anything but a cheering prospect, with perhaps hardly one tree within visible distance, and scarcely a bird to be descried overhead in flight. There is, however, one agreeable scrub formed by the tea tree, a flowering shrub, a species of Melaleuca, abounding in almost all parts of A.; not so dense as the 'mallee,' and mingled with other flowering plants. Next is the 'heath,' composed of a dwarf shrub, about two feet high, clothing tracts boggy in winter and dusty in summer, mingled with bushes of Melaleuca and Banksia (or 'native honeysuckle'), all bright colored and aromatic.

The highlands are rich in wood, such as that of the gum trees of the genus Eucalyptus, growing to a height of 250 ft., with a girth of 12 to 20 ft. In the Dandenong range, 40 miles e. of Melbourne, are many trees over 420 ft. high; one felled giant measuring as much as 480 ft. Then in the s. and w., and even a little into the interior, though less abundantly there, are the valuable shea-oaks, beef-woods, or Casuarinas—leafless trees, with rigid drooping branchlets something like our horsetails, their wood of the color of beef (whence the name), and as good as our oak. The jarrah, or Swan river mahogany of w. A., is invaluable for railway sleepers or piles, as it resists the ravages of white ants and marine insects. The grass-tree (*Xanthorhœa*) shoots up into a rugged stem, varying in height from two to ten ft., and is surmounted by a tuft of wire-like drooping foliage, from the centre of which rises a spike like a bulrush, flowering in winter into white stars. The wattles or acacias, abounding everywhere in the country, and comprising over 300 species, are also a most characteristic feature of A., with lovely yellow blossoms, and generally fragrant. The Australian bush is fragrant all the year. The traveller in the highlands, especially of New South Wales, will not unfrequently light, in some sheltered valley or deep ravine, on a scene of the most luxuriant vegetation, such as that of Illawarra, 50 m. to the s. of Sydney, where palms rising to 70 or even 100 ft., Indian figs draped with strange parasites, creepers, ferns, stag-ferns, flame-trees, and vines, and the loftiest trees, are all intermingled into a labyrinth of the most graceful forms and brilliant colors. The flame-tree, with its clusters of red flowers, gives signal of the Illawarra mountains to ships miles out at sea. The fire-tree of w. A., the only non-parasitical plant of the same order as our mistletoe, blazes with orange-colored blossoms like a tree on fire. The *Stenocarpus Cunninghami* of Queensland presents one mass 30 ft. high of orange-tipped crimson stamens. The warratah of New South Wales shows a single stem of 6 ft. supporting a crimson blossom like a full-grown peony. The alpine vegetation, again, of the higher mountains in Victoria and New South Wales, intermingles the Ranunculus, Geum, Gentiana, Gaultheria, etc., analogous to the alpine plants of Europe, with the purely Australian genera Oxylobium, Brachycome, Hovea, and Bossiæa. A. affords so wide a variety of climate and soil that most European trees and plants have been successfully introduced. The Scotch thistle has become a serious nuisance, and the governments of the various colonies, as well as private individuals, have expended large sums in the endeavor to exterminate it.

Zoology.—The zoology of A. is even more peculiar than its botany. The mammalia of other lands are totally wanting here, while the marsupials or pouch-bearing mammalia of A. have but the opossums of America to represent them in any other part of the world. There are in A. no apes, no oxen, antelopes, or deer, no elephants, rhinoceroses, or pigs, no cats, wolves, or bears, none even of the smaller civets, or weasels; no hedgehogs or shrews; no hares, squirrels, porcupine, or dormice: only some peculiar species of rats and mice, and the 'dingo,' a wild dog. The largest of the marsupials is the kangaroo, attaining a height of 5 ft., and a weight of 200 lb. Smaller species are the wallaby, the hare-kangaroo and rat-kangaroo. The fruit-eating bat or flying-fox is found in the New South Wales and Queensland. The shores of A. are frequented by antarctic fur-seals and sea-lions; and on the coast of Queensland is the dugong or sea-cow. Then there are phalangers nocturnal animals, feeding on leaves, and living in the hollows of trees In the moonlight stillness of the forest, flying-opossums may be seen gliding through the air. The flying-mouse, able to sleep in a good-sized 'pill box,' is decidedly Australian. The tarsipes of w. A. is a honey-sucker, no larger than a mouse, with extensile tongue. The koala of the e. districts is 2 ft. long, thick-limbed, and tailless. The wombat, the largest of the marsupials, next to the kangaroo, is 3 ft. long, feeds on roots and grass, burrowing deep in the ground, and is nocturnal. The 'native cats' are carnivorous marsupials, variously marked and spotted, but fierce and intractable, dwelling among rocks and in holes, and feeding on small mammals and birds. The ant-eater of w. A. is of the size of a squirrel, beautifully white-striped, with long and rather bushy tail. It has 52 teeth, a greater number than in any known quadruped, and feeds on ants. The platypus, having no teeth nor marsupial pouch, and inhabiting the rivers and lagoons of the s. and e. of A., is 20 in. long, having very short legs, and broad webbed feet. From its flat head project two flat horny jaws, like the bill of a duck. A. favors the acclimatization of animal as well as plant life, and the rabbit has proved so prolific as to require special legislation for its suppression. It is estimated that in New South Wales alone 2,000 men are employed in the destruction of this rodent, which, if left to itself, desolates wide tracts of country by consuming the herbage. The Victorian legislature has voted $515,925 for rabbit extirpation since 1879, and the total damage sustained by the colony during the ten years 1877-86 is estimated at $15,000,000. The camel has done excellent service in the work of exploration, and is used in outlying districts not only as a beast burden but for draught purposes. See MARSUPIALS, KANGAROO, ECHIDNA, ORNITHORHYNCHUS, etc.

The birds, if not quite so unique and strange a feature of A. as are its mammalia, excel those of all other temperate lands for beauty of plumage and fineness of form. Passing over the splendid parrots and cockatoos, we note for their singularity of figure or brilliancy of feather the regent bird, rifle bird, fly catcher, and lyre bird. The abundant flora, conjoined with scarcity of fruit, in this isolated continent develops flower-feeding birds wanting in other lands, such as the Meliphagidæ or honey-suckers, and the Trichoglossidæ or brush-tongued lories. Peculiar to A. are, too, the Megapodidæ or brush-turkeys, the Menuridæ or lyre birds, and the Atrichidæ or scrub-birds. The Megapodidæ do not sit on their eggs, but bury them under mounds of earth or vegetable matter, to be hatched by the sun or fermentation. The emu and cassowary of A. correspond with the ostrich of Asia and Africa. The Podargi, of enormous mouth—'moreporks' as they are called, from their singular cry—are a strange and usually Australian type. Among song birds are the piping-crow or musical magpie, and the lyre-bird, with its mocking notes. Noteworthy for their curious habits are the satin birds or bower-birds, which build their domiciles of twigs and branches, decorated with colored feathers, bones and shells, sometimes several feet long, arched over at the top, and which are made the rendezvous of many birds of both sexes. Altogether, A. has 650 distinct species of birds to muster against Europe's 400. Of reptiles, A. has no less than 140 kinds, its largest lizard measuring from 4 to 6 ft. Although with but one aberrant species of the vipers, an Acanthophis, and with no pit-vipers, it makes up for this by the Elapidæ (a family including the Indian cobras), constituting two thirds of the snakes of A., all poisonous, though only five kinds are fatally so. The black snake of A. measures from 5 to 8 ft. long. A. abounds, moreover, in insects, beautiful and peculiar, though the butterfly is rare in the temperate zone, becoming numerous toward the tropics. English singing and game birds have been largely introduced. The common sparrow has multiplied to such an extent that it has become a pest, and government has paid extra liberal sums for the destruction of these birds and their eggs. The ostrich has been successfully acclimatized, and its feathers have already become an article of export.

[illegible] A. [illegible] as much as its botany and zoology, the human natives of A. are [illegible] peculiar, separated by a wide remove from the Papuans, the Malays and the Negroes. Of a dark, coffee-brown complexion, rather than actually black, the Australian stands [illegible] short of the average European in height but is altogether of a [illegible] and feebler build. His legs, in particular, are very lean and [illegible] of calves, a defect common to dark races. His head is [illegible] and narrow, with a low brow prominent just above the eyes, but receding thence in a very marked degree. The nose, pro ceeding from a narrow [illegible] broadens out suddenly to a somewhat squat end, the eyes on either side of it, the look appearing drawn together. The face bulges into high cheek bones. The mouth is big and uneven, [illegible] the [illegible] contracted, the upper jaw projecting over the lower, [illegible] with fine white teeth, the chin cut away. The whole head and face, and indeed, the whole person, is covered with a profusion of hair, which, when freed of its usually enclogging oil and dirt, is soft and glossy. His ears are rather pricked forward. The effluvium of his skin, offensive in itself, is exaggerated by the fish oil he uses to anoint his person. The intellect of the Australian, directed almost exclusively to the means of procuring food, operates wholly within the range of the rudest bodily senses; but inside that elementary sphere, displays no little nimbleness and skill. He is unsurpassed in tracking and running down his prey; and his weapons, though of the most primitive kind, are well adapted to assist him in that purpose, while his rude culinary and domestic apparatus manifests equal skill. Nay, he has some exuberance of rude sense, some imitative faculty or elementary art in him, as may be observed in the crude figures of sharks, lizards, etc., carved on caves in the n.e., and on the rocks of New South Wales; as also in his language, which, within its very circumscribed sensuous sphere, is fairly expressive and complete; and likewise in the facility with which he learns to chatter foreign languages.

Outside this circle, however, all is blank to the Australian. He has no architecture, almost no weaving, no pottery, and may almost be said to have no religion. His sensations have hardly, if at all, reached the length of sentiments, far less sentimentalities. The man lords it over the women, who is as much his property as is his 'boomerang' or 'dingo.' The male offspring is, indeed, in considerable estimation; and a father will lament the death of his son for months, or even years. Old men and old or infirm women, on the other hand, are mercilessly abandoned. In summer, they roam about naked, and sense of shame seems almost wholly undeveloped in them. Morality is entirely reduced to the notion of property, wives being one item in a man's chattels, the stealing of which has a definite punishment attached to it. Yet the 'black fellows' are capable of loyal affection and gratitude and the noble hospitality of the wretched tribes of Cooper's creek [illegible] themselves to the last survivor of Burke's unfortunate expedition should never be forgotten. Without doubt they have often murdered Europeans, but in many cases this was but more or less legitimate reprisal for prior atrocities committed by the convicts or other reckless Europeans. Where caves abound, some of the tribes seek no further, but live in those ready made tenements. None of them have fixed habitations; at best, only a screen of twigs and bushes, covered with foliage or turf, sometimes, however, logs of wood and turf to serve for a few days or weeks shelter, till the pursuit of food calls them elsewhere. Thrift is unknown, and the life of the Australian alternates between satiety and semi-starvation. In summer he goes naked, in winter he wraps himself in Kangaroo skins. To hold his dowak or digging stick he binds a girdle of hair about his loins; and for protection against scratches, he hangs an apron of skins to the girdle. By way of food, he devours the kangaroo, emu, opossum, wombat, lizards, snakes (of which the head is rejected), frogs, larvae, white ants, moths, which are unusually roasted, fire being produced by rubbing together two pieces of stick. The [illegible] wife is bound to keep her [illegible] in vegetable food, roots of wild yam, seeds of [illegible], leaves of the grass-tree, etc.; and if she fails to produce enough, she is liberally treated to thrashings and spearings, so that a wife generally appears bruised and gashed all over. The boomerang [illegible] is a flat stick [illegible] long, curved at the centre, and which, when thrown, takes a zigzag spiral, or circular motion, usually returning to the thrower. In addition, they have the throwing stick, flint pointed spears, shields, stone hatchets, digging sticks, needles, nets of sinews, fibres, or hair, water-skins, and canoes.

There is no government among this people outside that of the family, and no laws except [illegible] property. In the way of religion they have little save the belief [illegible] of ghosts, [illegible] and some superstitions [illegible] certain periods in a man's life, more particularly at his burial. At ten years of age a boy is covered with blood; at twelve to fourteen he is [illegible] in the s. or n., nor in the w., nor on the Murray [illegible] and at twenty he is tattooed or scarred. Felicity after death depends upon proper burial. A man dying in battle, or rotting in the field, becomes an evil spirit. For their curious exogamous marriage customs, see MARRIAGE. Their language is wholly sensuous, their abstraction tending only in the way of arithmetic as far as the number 5, and that itself quite an unusual stretch; it is of polysyllabic formation, and, the accent falling on the penultimate, is not inharmonious. The wider relations of the languages of A. are still very obscure, but the results already obtained show that there exists between themselves a general grammatical resemblance. The chief languages, besides those spoken on the banks of Lake Macquarie and the Hunter river, are: those of the w. regions; that of Encounter bay, and that of the environs of Adelaide; the Wiradurei, in the Wellington valley; the Kamilaroi, in the plain of Liverpool, and on the banks of the rivers Kamol, Barwan, Bundassa, and Balonne; the Turrubul, on the banks of the river Brisbane; the Dippil, north of Moreton bay, as far as the district of Burnett in Queensland; and the Parnkalla on the w. side of the peninsula of Port Lincoln. Others enumerated are the Pikumbul, Kingki, and Wodi-wodi. The general phonetic principles in all these idioms are extremely simple. They have five vowels, *a, e, i, o, u*; the diphthongs from these; the consonants *k, t, p, n, m, r, l*, pronounced somewhat gutturally, and the semivowels *y* and *w*. There are no sibilants or aspirates, save in some dialects; *g, d*, and *b* are seldom met and are not clearly articulated. Morphologically the languages of Australia are agglutinative, declension taking place by help of suffixes. The languages of the w. are as poor in grammatical forms as Burmese or Siamese; those of the Macquarie lake recall the structure of the Ugro-Altaic languages; the others, like those of Encounter bay, offer an analogy to the Basque in their conglomerations of suffixes that almost defy analysis. All these idioms more or less distinguish the three numbers—singular, plural, dual; but the idea of gender seems unknown. The subject, the object, the attribute, the predicate, are only recognized by their position in the phrase, notwithstanding a rich declension by suffixes, which, like Basque, go so far as to differentiate the subject of the intransitive from that of the transitive verb. The verbs have developed a reflexive, a reciprocal, a determinative, and a continuative voice; they have also subjunctive, conditional, and optative moods beyond the ordinary tenses of the indicative (present, imperfect, past, future). We find a large number of common roots; the word for 'eye,' for example, is *mil* in Kamilaroi, Wiradurei, Pikumbul, and Kingki; *mii* near the St George river; *mi* in Wodi-wodi; [illegible] in Victoria; *mual* near the Cygnes river. The vocabulary is poor in general, and naturally there are no original words expressing abstract ideas. The most scientific studies hitherto made in Australian languages are those of Fr. Müller of Vienna. Like almost all other savages, the native Australians are rapidly vanishing before the advance of civilization. In the settled districts some of them are usefully employed as shepherds and stockmen, but the majority prefer vagrant habits. The intermittent use of European clothing induces consumption, while the diseases and vices they acquire from [illegible] are another potent factor of their destruction. The lowest estimate of their number, prior to European settlement among them, gives [illegible]; the natives still surviving being calculated now at about half that figure. The census of 1881 showed the number to be [illegible], but only natives in the settled districts were included in the returns.

Discovery and Settlement. The precise date of the discovery of A. is uncertain. It has been asserted that Magellan's followers sighted it in [illegible], and that a Spanish ship passed Torres strait in 1545. In a French map of [illegible] it figures as Jave la Grande. It is next distinctly referred to in a book of Cornelius Wytfliet (Louvian 1598), in which it is described as forming the one-fifth of the world. The present Torres strait refers to the presence of Torres there in 1606. Dirk Hartog's [illegible] carries us back to Dirk Hartog and the year 1616. Arnhem Land commemorates a [illegible] of the Dutch vessel Arnhem, [illegible] east of that coast. The Dutch ship [illegible], in 1627, surveyed a large part of the s. coast from Cape Leeuwin. The Gulf of Carpentaria was named, probably by Tasman, [illegible]. In 1688 A. [illegible] in the person of Dampier, [illegible] in the NW. Near a century [illegible] Banks and Dr Solander [illegible] some thousand species of the wonders of

Australian botany to show at home. Bass strait, on the s., brings us down 20 years later (1798) when Surgeon Bass was there with Lieut. Flinders. In 1799 Flinders (who gives name to a range of hills in S. A., and to a river in the n., discharging into the gulf of Carpentaria) was surveying Moreton bay and Hervey bay; in 1801, Spencer gulf and the gulf of St. Vincent, as also the coast on the e. and n. In 1800 Capt. Grant, in 1802 Lieut. Murray, explored the shores of Victoria; the latter discovering the bay of Port Philip, at the head of which now stands Melbourne. The exploration of the whole coast of A. was completed by the Beagle (in which Charles Darwin sailed), 1837-43.

The first British settlement having been made in 1788 at Port Jackson (on which Sydney now stands), inland exploration necessarily followed; but for the first 25 years was confined inside the Blue mountains, to a district of some 70 m. inland. In 1813, however, that barrier was passed, and the valley of the Fish river and Bathurst plains were for the first time brought within the limits of civilization. Two years later (1815) the Lachlan river (tributary of the Murrumbidgee) was lighted on, and traced 500 m. in a s.w. direction to a 'marsh.' Next the Macquarie (tributary of the Darling) was discovered, and followed likewise to a 'marsh'—experiences which suggested the theory of a sea in the interior of A. Mr. Oxley pushed exploration through New South Wales into Queensland, laying open the Brisbane river. In 1819 Hamilton Hume reached the Murrumbidgee, and in 1824 travelled overland from Sydney to Port Phillip, crossing the Upper Murray en route. In 1828 Capt. Sturt and he followed the Macquarie to its junction with the Darling. In the following year Sturt traced the Murrumbidgee to its junction with the Murray; then sailed down the Murray to its discharge into Lake Alexandrina, a few miles from its entrance to the sea at Encounter bay; but not finding its mouth, was obliged to return by river after encountering great hardships. Maj. Mitchell tracked the Lachlan through the 'marshes,' discovered (1836) the Loddon (tributary of the Murray) and Wimmera (intermittent stream to w. of it), crossed the Grampians, descended the Goulburn to the Murray, and altogether surveyed the fairest and richest part of Victoria, 'A. Felix,' as he admiringly named it. In 1839 Mr. E. J. Eyre (afterward governor of Jamaica) discovered Lake Torrens in S. A., and in 1840, after exploring its e. shores, and the Flinders range to the s., accomplished a successful but most perilous and distressing march of 1,200 m. from Adelaide to King George's sound. In 1844-5 Capt. Sturt started from the Darling (150 m. above its confluence with the Murray), travelled 250 m. n.w., then n. to the Grey range, over endless deep red sand ridges, and a barren mud plain, through 'Spinifex' (spiny lacerating 'porcupine grass'), to a point within 150 m. of the center of the continent. In 1843 Leichardt explored Queensland from the s. borders to the gulf of Carpentaria; in 1844 he crossed from Fitzroy river to the head of the gulf of Carpentaria, whence he made his way w. along the n. coast as far as Port Essington.

One of the greatest and most successful of all Australian explorations was the passage across the whole continent, from s. to n., from Adelaide to a point w. of Chambers bay, in 1862, by J. M'Douall Stuart; opening up the Albert river, the Finke river, the Macdonnell ranges, the Ashburton ranges, etc., altogether a quite practicable route across the continent through a fairly continuous, if narrow belt, of upland and stream, a route utilized in 1872 for a telegraph line with fixed stations. Nearly contemporaneous with this fortunate expedition was the most tragic one of Burke and Wills. Starting from Melbourne these two explorers reached Cooper's creek, the lower course of the Barcoo river. There leaving the larger portion of their cumbrous cavalcade, Burke and Wills pushed on, passing the McKinlay mountains, and reaching the gulf of Carpentaria near the mouth of the Flinders, the first passage made across the continent. On their return journey they perished miserably of starvation at Cooper's creek. McKinlay, who searched for the lost party, traversed the whole continent to Albert river, on the gulf of Carpentaria, thence e. to Burdekin river and Port Denison in Queensland. In 1861 F. T. Gregory explored 800 m. of the n.w. of A. at a distance of some 300 m. from the coast, and the upper courses of the De Grey, Ashburton, Fortescue and Oakover rivers. The e. side of Cape York peninsula was explored by Jardine in 1864.

The telegraph line of 1872, as a base or goal of adventure to or from the w. coast, could not but provoke expeditions to draw communicating lines between it and the w. coast. Accordingly, in 1872, Ernest Giles started from Chambers Pillar, near the Charlotte Waters telegraph station; but in spite of the most stubborn resolution, reached only 100 m. to the n. of Lake Amadeus. In 1873-4, starting 200 m. farther s., he reached half-way across to the w. coast. In 1873, however, Col. Warburton, starting in April from Alice Springs (just n. of the tropic) with camels, arrived in Dec. of that year at Oakover river in w. A. In 1874 Mr. John Forrest, with horses only, passed from Murchison river on the w. coast, to the telegraph line a little to the n. of Peake Station. In 1875 Giles crossed from the head of St. Vincent gulf to Perth on the w. coast, having traversed 2,500 m. through a country unfit for settlement, and for 1,000 m. had to force his way through interminable scrub. These expeditions seem to demonstrate that much of the interior of A., between the w. of the overland telegraph line and the e. of the narrow hilly border of w. A., is little better than desert, either unmitigated sand or dense scrub or porcupine grass.

The first civilized settlement in A. was made at Botany bay in 1788 by 1,030 persons, mostly convicts. In 1825 Moreton bay (now Queensland) was settled as a part of New South Wales, attaining in 1859, Dec., the position of a separate colony. The settlement of w. A. (the Swan River Settlement, as it was then called) dates from 1829. It continued to be a penal settlement from 1851-68. Port Phillip (now Victoria), then a part of New South Wales, was first colonized in 1835, and on 1851, July 1, was constituted an independent colony. The colonization of s. A. by British emigrants dates from 1836. A large proportion, it may be noticed, of the geographical nomenclature of A. is Scotch.

The revenue of all the five colonies, which in 1874 was $48,148,540, had grown in 1884 to $117,[illegible]; and the debt in the same period (largely incurred for public works) increased from $159,155,366 to $[illegible]. Though house-rent is higher than in England, meat, bread and groceries are all far cheaper, while clothing is not much dearer than at home. Wages, again, are much higher; and there is a constant demand for agriculturists and female domestic servants.

Population.—Especially since the discovery of gold in 1851, A. has been advancing in all departments of material well-being at a rate surpassing that of any other country on the globe. In 1788 the first settlement at Botany bay (Sydney) numbered only 1,030 persons; in 1835 the European settlers of A. including Tasmania amounted to 80,000. By 1850 the population had risen to [illegible]. The discovery in that year of the gold-fields caused a sudden and enormous inrush of immigrants from all parts of the world, and at the present time the inhabitants of the Australian continent count nearly 3,000,000. Between 1850-85 the population of New South Wales grew from [illegible] to nearly 1,000,000; between 1850-85 that of Victoria grew from [illegible] to close on 1,000,000; between 1850-85 that of New Zealand from [illegible] to more than 500,000. From 1850-80 the immigration to A., Tasmania, and New Zealand averaged daily [illegible] persons, or [illegible] per annum, the increase of population for that decade exceeding the rate of the United States. The population to the sq. m. is: in Victoria, 11.[illegible]; in New South Wales, [illegible]; in Queensland, [illegible]; in s. A., [illegible]; in w. A., .036; and on the entire continent, [illegible]. The population is, of course, almost all of European origin, the predominating element being British. In 1881 half the population had been born in the colonies, [illegible] in the United Kingdom, while [illegible] were Germans, [illegible] Americans, and 3,000 French. Chinese, about [illegible] in number, are found chiefly in Victoria and Queensland; and there are many Polynesians ('Kanakas')—laborers from the islands—in Queensland.

The largest cities are (with their suburbs): Melbourne, capital of Victoria, [illegible]; Sydney, of New South Wales, [illegible]; Adelaide, of s. A., [illegible]; Ballarat, Victoria, [illegible]; Sandhurst, Victoria, 38,420; and Brisbane, capital of Queensland, 36,169.

Government, Colonial Defense, etc.—Each of the great divisions of A. forms a separate colony, exercising its own administration, passing its own laws and levying its own fiscal duties; and all of them enjoying responsible government, with the exception of w. A., the constitution of which is representative. In w. A. the executive council is composed of the principal officers of the government, and the governor has power to appoint two unofficial members; the legislative council consists of the members of the executive council, with the exception of [illegible] of the governor, and [illegible] a strong agitation in this province [illegible] responsible government. The government of each of the other colonies consists of the governor representing and appointed by the Queen, the legislative council, corresponding to the house of peers, and the legislative assembly, corresponding to the house of commons. The legislative councils of New South Wales and of Queensland are nominated purely by the crown; those of Victoria and S. A. are elected by the inhabitants possessing a certain property qualification. The legislative assembly is, in all four colonies, elected by manhood suffrage. Imperial laws are in force in all the colonies, unless superseded by local enactments, and all acts passed by the local legislature must receive the assent of the home government. All votes are taken by ballot. In Victoria, the members of both houses are paid £300 each per annum, for the three years for which they are elected.

An act to constitute a federal council of Australasia, for the purpose of dealing with such matters of common Australasian interest in respect to which united action is desirable, as can be dealt with without unduly interfering with the management of the internal affairs of the several colonies by their respective legislatures, passed the imperial parliament, and became law on 1885, Aug. 14. Representatives of Fiji, Queensland, Tasmania, Victoria, and W. A. attended the opening meeting, which was held at Hobart on 1886, Jan. 25. New South Wales, New Zealand, and S. A. decided not to join the federal council at present; but there seems every reason to hope that the example of Canada may eventually be followed, with a great united Australasian dominion as the result. The question of common defense has for some time been engaging the attention of the colonies. On the recommendations of Lieut.Gen. Sir Wm. Servois and the late Sir Peter Scratchley, most of the capitals are now strongly fortified toward the sea; the batteries defending Port Jackson and Hobson's bay being extensive and well armed. Victoria has a navy of its own, comprising a line-of-battle ship, an ironclad, and a sloop of war. S. A. and Queensland also have gunboats. At Sydney, the rendezvous and headquarters of the Australian squadron, are stationed permanently several men of war. The colonial conference of 1887, at which representatives of every British colony assembled in London to discuss with Her Majesty's ministers questions of imperial concern, marked a new era in the relations of the colonies to the mother-country, and indicated what an impregnable position the partnership now being cemented will give to the empire at no distant date. A proposal was favorably received, and will probably be adopted, that a squadron of nearly double the present strength should be permanently stationed by the British government in Australian waters, the colonies contributing $610,000 per annum toward the cost.

Religion.—There is no state church in A., all religious sects being self supporting. In respect of numbers, Episcopacy is the dominant form of religion, Roman Catholics come second, Presbyterians third, and Methodists fourth.

Education and Literature.—Education has of late been rapidly diffusing itself. In all the colonies education is either free and compulsory, or the primary schools are so liberally endowed by the government as to place elementary education within the reach of all classes; while libraries, museums, botanical gardens, schools of art, mechanics' institutes, etc. are multiplying and flourishing under the liberal patronage of the several governments. The Melbourne Free Library has upward of [illegible] volumes. There are universities in Melbourne, Sydney, and Adelaide, and also well-equipped astronomical observatories. The names of Baron Von Mueller and of Dr. Schomburgk are well known to all scientists. Meteorological science is diligently cultivated; and geographical and other societies are numerous and active.

But in A. literary enterprise is mainly directed to journalism, as may well be believed when it is mentioned that in the Australasian colonies, including Tasmania and New Zealand, some [illegible] newspapers, magazines, and periodicals are published [illegible]. Melbourne and its suburbs alone issue more than 80 newspapers and magazines. The leading dailies [illegible] papers [illegible] and enterprise; the weeklies [illegible] remarkable for cheapness, variety of contents, and excellent writing. Satirical periodicals and 'society' papers are well represented.

The current book literature is [illegible] of the old country; and [illegible] the [illegible] by far the greater part is the work of men born and bred in Britain. [illegible] oftenest on Australian lips. His work is mainly English in [illegible] local color. His best-known verses are his Bush Ballads and Galloping Rhymes. Kendall is the only Australian born who has secured a permanent place in the affections of Australians; and his poetry is eminently racy of the soil, being a true reflection of Australian scenery and Australian life. His most sustained effort is Orara, a narrative poem of adventure and tragedy in the bush. Marcus Clarke, the son of a London barrister, is the most notable Australian prose-writer, his chief work being the novel For the Term of his Natural Life. These three writers all died under 37 years of age. J. Brunton Stephens, a graduate of Edinburgh, may after 20 years in A. be regarded as an Australian poet. Dr. Hearn has written in prose on The Aryan Household, on The Government of England, and on Plutology. Henry Kingsley was for a few years a colonist; and his descriptions of Australian life, especially in Geoffrey Hamlyn and The Hillyars and the Burtons, are singularly vivid. Mrs. Campbell Praed has written Policy and Passion, and other novels dealing more or less directly with Australian subjects and scenes. And Charles Reade, though without the advantage of Australian experiences, has, in It's Never too Late to Mend, given many their most lively ideas of bush-life.

Produce.—The chief and most general staple produce of A., for which the country is peculiarly adapted, and which constitutes its largest export, is wool. Over all the highland and river lands of the sea border—wherever, in fact, there is water—sheep thrive remarkably, except, perhaps, within the tropics, and the wool is of the finest quality, realizing the highest prices in the English market. The produce of wool in A. in 1884 was 320,676,988 lbs., valued at $81,176,162. The cereals of Europe and maize have been introduced into the island-continent with the happiest success, and from 1875-85 the wheat crop of the five colonies rose from 18,000,000 bushs. to 27,000,000 bushs. S. A. is the principal wheat growing colony as regards the area under cultivation, but is being rapidly overtaken as to yield by the neighboring colony of Victoria. Potatoes everywhere yield abundantly. The vine is extensively cultivated, and the produce of New South Wales, S. A., and Victoria was highly commended at the London exhibition of 1886. Sugar is a very important and increasing product of Queensland, and is also cultivated in New South Wales. Cotton is grown in Queensland. The fruit trees of Europe and of many of the tropical and sub-tropical climates also thrive luxuriantly. Tobacco is also grown. The native timber is distinguished for its hardness, durability, and building properties.

The following tables give a comparative view of the agricultural produce of the continent:

HARVEST OF 1885.

Colonies.	Wheat. Bushels.	Oats. Bushels.	Barley. Bushels.	Maize. Bushels.
Victoria	9,170,538	4,692,308	1,302,854	181,249
New South Wales	2,733,133	279,107	85,606	4,336,163
*South Australia	14,621,755	88,639	211,207	......
Queensland	51,598	1,006	9,826	1,574,285
Western Australia	339,376	23,142	89,581	1,950
Total	26,916,400	5,084,197	1,699,074	6,093,647

Colonies.	Other Cereals. Bushels.	Potatoes. Tons.	Hay. Tons.	Wine Made. Gallons
Victoria	769,659	162,202	442,118	1,003,827
New South Wales	11,731	38,095	191,572	[illegible]
*South Australia	64,856	23,192	285,839	[illegible]
Queensland	......	18,989	30,000	[illegible]
Western Australia	......	3,085	[illegible]	[illegible]
Total	[illegible]	245,163	[illegible]	2,225,618

*No agricultural statistics having been collected in South Australia in 1885, the figures of the previous year have been given for that colony.

HARVEST OF 1886 (So far as can be ascertained.)

Colonies.	Wheat. Bushels.	Oats. Bushels.	Barley. Bushels.	Potatoes. Tons.	Hay. Tons.
Victoria	[illegible]	[illegible]	[illegible]	157,000	[illegible]
New South Wales	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Southern Australia	14,577,858	......	......	......	......
Queensland		......	......	......	......
Western Australia	495,298	11,500	93,075	......	25,691

Commerce.—The trade of A. exhibits a remarkable development, the average of trade per inhabitant being about five times that of Europe, and nearly five times that of Canada. The imports of A. have risen from $172,454,922 in 1871, to $332,704,688 in 1890; the exports in the same period from $178,115,600 to $305,308,165. It has not escaped the influence of the wave of depression which has affected the whole of the civilized world during recent years, and has also suffered from a succession of bad seasons, and the fall in the value of staple products. The exports consist principally of wool, frozen meat, preserved meat, tallow, skins of all kinds, hides, wheat, cotton, sugar, and wine. The return for 1885 gives the number of sailing ships and steamers belonging to the Australian colonies at a total of 1,969, with a net tonnage of 246,687 tons. New South Wales, alone of all the divisions of A., has (since the governorship of Sir Hercules Robinson, 1872-9) adopted the principle of free trade. A heavy protective tariff prevails in Victoria, and the example of this colony has been followed by s. A.; but the feeling in the other colonies is less pronounced.

Railways and Telegraphs. Since 1870, railways and telegraphs have been increasing at a ratio, in relation to population, far exceeding that of the United States. Two main trunk lines of railway connect the s. seaboard of Victoria with her n. frontier. There is a railway line from Adelaide via Melbourne, to Sydney, and it is rapidly approaching completion to Brisbane. Queensland is intersected by three trunk lines, already running from the e. coast for many miles into the w., and their continuation across the whole breadth of the colony, and northward to the gulf of Carpentaria, is in assured prospect. She has a line already touching the border of New South Wales. Railway extension is proceeding actively in s. A. also, the transcontinental line having been carried from Adelaide to the Peak. A line of 125 m. in operation in w. A., and other lines are in course of construction. At the end of 1889 the railway lines of A. already working measured 10,288 m. and 3,402 m. were in course of construction. Telegraphically, the colonies are now all linked together with Tasmania and New Zealand, and with the mother country via Java and India. The telegraphic traffic is enormous, double that of Great Britain in proportion to the population. The telegraph lines at the end of 1889 measured 41,215 m. embracing 77,182 m. of wire.

Manufactureres suitable to the country are rapidly developing. Magnificent lines of steamers maintain frequent communication with Europe and America, between the various colonies, and with the Fiji islands and New Caledonia. Mails have been delivered in Adelaide in 29 days from London, via Brindisi, and the sea passage between Adelaide and Plymouth may be covered in about 35 days. In 1887 mails were delivered at King George's sound in less than 24 days from London. The length of the voyage in sailing ship ranges generally from 70 to 100 days. The principal lines are the P. & O., the Orient, the British India (via Torres strait), the Union (San Francisco to New Zealand), the French Messageries Co., and a German service, the last two being subsidised by their respective governments. The Canadian Pacific Railway company carries mails across Canada, thus avoiding the necessity of traversing any but British territory, en route, and very remarkable time was made last year by the aid of special trains across the continent via New York, eclipsing all previous records.

Statistics. The following are the official statistics of the Australian colonies at the close of 1885. For comparison we add those of Tasmania and New Zealand;

STATISTICS—1885.

Colonies	Area sq. m.	Pop.	Revenue	Import.
Victoria.	87,884	0,991,869	$30,508,251	$87,516,329
New South Wales .	309,175	957,914	[illegible]	113,221,301
South Australia . .	903,425	[illegible]	[illegible]	26,909,735
Queensland	668,224	315,489	[illegible]	31,140,076
West Australia. . . .	975,920	35,186	[illegible]	3,154,386
Total Australia .	2,944,628	2,613,881	[illegible]	[illegible]
Tasmania	26,375	133,791	[illegible]	8,553,807
New Zealand	104,235	575,335	19,860,431	36,277,617
Grand Total . . .	3,075,238	[illegible]	$116,182,993	$306,852,181

AUSTRALIA.—14.

Colonies.	Export	M. rw. open Dec. 31.	M. Tel. open Dec. 15.	Acres under Crop.	Pub. Debt, Dec. 31.
Victoria.	$75,427,026	1,676	3,949	2,405,157	$138,848,652
New South Wales	80,227,463	1,777	10,351	868,093	172,486,656
South Australia.	27,335,837	1,063	5,346	2,785,490†	82,551,365
Queensland......	25,430,510	1,434	7,533	209,130	93,706,122
West Australia..	2,166,456	184	2,234	76,929	6,247,285
Total Australia	$210,586,292	6,134	29,413	6,344,799	$493,840,080
Tasmania........	6,371,411	257	1,635	417,777	16,281,450
New Zealand	33,076,704	1,654	4,463	1,265,975	173,583,547
Grand Total. ..	$250,034,407	8,045	35,511*	8,028,551	$683,704,077

*** Miles of wire, 66,439. † Figures for 1884.**

STATISTICS—1890.

Colonies.	Area sq. m.	Pop.	Revenue.	Expenditures.
Victoria................	87,884	1,111,258	$42,078,993	$38,413,154
New South Wales......	310,700	1,122,200	43,957,475	44,908,450
South Australia........	903,690	324,484	11,167,096	11,025,034
Queensland	668,497	406,658	17,531,062	16,964,359
West Australia........	975,920	43,332	2,147,216	1,872,100
Total Australia......	2,946,691	3,007,932	$116,881,842	$113,183,097
Tasmania..............	26,251	151,480	3,264,050	3,264,050
New Zealand...........	104,471	620,279	19,360,807	19,220,123
Grand Total....	3,077,413	3,779,691	$139,506,699	$135,667,270

Colonies.	Debt.	Import.	Export.
Victoria....................	$182,492,803	$118,353,386	$61,763,460
New South Wales.........	226,290,567	110,885,826	122,680,430
South Australia..........	99,112,175	33,001,587	35,207,920
Queensland...............	128,771,022	29,223,976	37,521,099
West Australia...........	6,654,108	3,967,916	8,692,746
Total Australia.........	$643,321,276	$295,432,691	$260,865,655
Tasmania.	22,289,387	7,813,520	7,080,307
New Zealand..............	180,240,021	30,540,920	45,295,435
Grand Total.............	$845,850,684	$333,787,181	$313,241,397

See the articles VICTORIA, NEW SOUTH WALES, SOUTH AUSTRALIA, QUEENSLAND, WESTERN AUSTRALIA, etc.; also the Australian Handbook, the Year Book of Australia, and Silver's Handbook; Fr. Müller, Allgemeine Ethnographie (2d ed. Vienna, 1879); vol. vi. of Waitz, Anthropologie der Naturvölker (Leip. 1871); A. Trollope, Australia and New Zealand (1873); Heaton, Australian Dictionary of Dates (1879); Dawson, The Australian Aborigines (1881); Wallace, Australasia (1880); Bonwick, First Twenty Years of Australia (1882); histories by Rusden (1883) and Allen (Melbourne, 1882); Jung, Australia (London, 1884); Froude's Oceana (1886); G. A. Sala's work on Australia (1885); Ridley's Kámilarói, and other Australian Languages (1877); the Picturesque Atlas of Australasia (1888); and the bibliography in Notes and Queries 1885, November, p. 436.

AUSTRIA: the usual name of the great empire now officially called the AUSTRO-HUNGARIAN MONARCHY, is a Latinized form of the German *Oesterreich* (Fr. *Autriche*), meaning 'Eastern Kingdom.' Since 1867, the empire is composed of a union of two states under one emperor, but administratively distinct. The one is Austria, or Cisleithania ('on this side the Leitha,' a tributary of the Danube, on the frontiers of the archduchy of A. and Hungary); the other, Hungary and the lands of the Hungarian crown, or Transleithania. The relation of the two divisions to one another is discussed below, and at the article HUNGARY. The present article deals with the empire as a whole. The Austrian dominions form geographically a compact territory, with a circumference of about 5350 miles. The total area, 240,456 sq.m., is greater than that of any other European state save Russia, and is nearly twice the area of the United Kingdom. The body of the empire lies in the interior of Europe, though it has about 500 miles of sea-coast on the Adriatic. A. borders on Italy, Switzerland, Bavaria, Saxony, Prussia, Russia, Roumania, Servia, and Montenegro. With the sanction of the Berlin Congress of 1878, the small territory of Spizza, on the Montenegrin frontier and formerly Turkish, has been incorporated with Dalmatia. The Turkish provinces of Bosnia and Herzegovina, though occupied and also administered by A., cannot strictly be regarded as part of the Austro-Hungarian monarchy.

Area and Population. The following table shows the area and population of the empire at the census of 1880, December:

	Area in Sq. Miles.	Population in 1880.
I. AUSTRIAN LANDS—		
Lower Austria	7,654	2,329,021
Upper Austria	4,631	760,879
Salzburg	2,767	163,566
Styria	8,670	1,212,367
Carinthia	4,005	348,670
Carniola	3,856	481,176
Görz, Gradiska, Istria, and Trieste	3,084	650,897
Tyrol and Vorarlberg	11,324	911,887
Bohemia	19,980	5,557,134
Moravia	8,583	2,151,619
Silesia	1,987	565,772
Galicia	30,307	5,951,954
Bukowina	4,035	569,599
Dalmatia	4,940	476,164
Total for Austria	115,823	22,130,705
II. LANDS OF THE HUNGARIAN CROWN—		
Hungary and Transylvania	107,858	13,700,005
Fiume	8	21,363
Croatia and Slavonia (including since 1881 the former Military Frontier)	16,767	1,889,351
Total for Hungary	124,633	15,610,719
Total for the Monarchy	240,456	37,741,424

Returns 1888, Dec., gave for the empire a total of 40,460,808. This includes the army and landwehr, amounting in 1889, on a peace footing, to 323,193 men; and on a war footing (with gendarmerie, etc.), to 1,[illegible]. The naval forces of the monarchy consisted in 1886 of 11 armor-clads, 61 other steamers, with 10 tenders and 16 training-ships. At the end of 1888 A. had six cities of over 100,000 inhabitants: Vienna, the capital of the empire, 1,350,000 (in 1869, 823,855, in 1875, 1,020,770); Budapest (Pesth, in 1886) 422,557; Prague, [illegible]; Trieste, 160,000; Lemberg, 122,000, and Gratz 106,000. These figures include the garrisons and the suburbs which, in the case of Trieste, doubled the population of the town proper. Besides these six, there were seven cities with over 50,000, and 42 with over 20,000 inhabitants. After Trieste, the chief harbors are Fiume in Croatia and Curzola in Dalmatia, with over 20,000 inhabitants; and Zara, Spalato, and Rovigno, with over 10,000. More than two-thirds of the population are engaged in agriculture; but there is a constantly increasing tendency to concentration in the large towns. The following table of the civil population shows a steady increase since [illegible], if we remember that between the census dates of 1857 and 1869 the empire lost its Lombardo-Venetian territories, with over 5,000,000 inhabitants:

Year.	Population.	Year.	Population.
1818	29,769,923	1857	37,339,012
1830	34,082,169	1869	35,634,858
1842	35,295,957	1880	37,786,346

The Treaty of Berlin of 1878 gave A. the right of occupying and administering Bosnia and Herzegovina, with the adjoining sanjak (district) of Novi Bazar, which makes it expedient to add the area and population of these Slavonic provinces of the Turkish Empire here:

Districts.	Area in Sq. Miles.	Pop. in 1885.
Bosnia	16,142	1,148,517
Herzegovina	3,515	187,574
Novi Bazar	3,522	168,000
Total	23,179	1,504,091

Surface.—Three-fourths of A. is mountainous or hilly, being traversed by three great mountain-chains—the Alps, Carpathians, and Sudetes, whose chief ridges are of primitive rock. The Rhætian and Noric Alps stretch from Switzerland to the Danube, and contain the highest points of the Austrian territories, the Ortler Spitze rising to 12,814 feet. Their height declines gradually toward the east, where the Leitha Hills (3000 feet), overlooking the plain of Vienna, form the transition to the Carpathians. This chain, extending for 880 miles, rises on the left bank of the Danube, near Presburg, and sweeping in a curve, first east, and then southward through Transylvania, again meets the Danube. The central part, or Tatra Mountains, are vast granitic masses, resembling the Alps in character; the highest of these is the Gerlsdorfer Spitze, 8517 feet, and their average elevation is over 6000 feet. Springing from the n.w. bend of the Carpathians, the Sudetes run through the n.e. of Moravia and Bohemia, in which last the range is known as the Riesengebirge, or Giant Mountains. The boundary between Bohemia and Prussian Silesia passes over the Schneekoppe, the highest peak of these mountains, which is 5320 feet in height. Continuous with this range, and beginning on the left bank of the Elbe, are the Erzgebirge, or Ore Mountains, on the confines of Saxony; and veering round to nearly s.e., the range is further prolonged in the Böhmerwald, between Bohemia and Bavaria. The chief plains of the Austrian empire are the vast lowlands of Hungary (the one in the west is about 4250 sq. m. in extent; the other, which is in the east, and traversed by the Danube and the Theiss, has an area of 21,000 sq. m.), and the plain of Galicia.

From the Gulf of Trieste to the south point of Dalmatia, A. has a sea-line of about 1000 miles, not counting the coasts of the numerous islands, the largest of which is Veglia, 23 by 12 miles. The chief lakes are Lake Balaton (382 sq. m.) and the Neusiedler See (117), both in Hungary. The Alps and Carpathians inclose numerous mountain lakes. That in the Tatra Mountains lies at an elevation of 6000 feet. The most remarkable of all is the Zirknitz Lake (q.v.) in Illyria. There are extensive swamps or marshes in Hungary.

The leading rivers that have navigable tributaries are: the Danube, which has a course of 880 miles within the Austrian dominions, from Passau, at the mouth of the Inn, to Orsova, on the frontier of Wallachia, its navigable affluents being the Inn, Save, Drave, March, Waag, and the Theiss, which drains nearly half of Hungary; the Vistula, with its tributary the Bug; the Elbe, with the Moldau and Eger; the Dniester and Adige. The Rhine flows for about twenty-five miles of its course between A. and Switzerland. The Isonzo, Zermagna, Kerka, and Narenta flow into the Adriatic.

The canal system of A. is not extensive. The Vienna and Neustadt Canal, in lower A., has a length of 40 miles; the Bacser, or Franz Canal, between the Danube and Theiss in Hungary, 70 miles; and the Bega Canal, constructed by the Romans, between the Bega and Temes, 83 miles.

The climate of A. is on the whole very favorable; but from the extent and diversity of surface it presents great varieties. In the warmest southern region, almonds, figs, olives, oranges, and lemons ripen in the better localities; and wine and maize are produced everywhere. In the middle temperate region from 46°-49°, which has the greatest extent and diversity of surface, wine and maize still thrive in perfection. In the northern region, beyond 49°, except in favored spots, neither wine nor maize succeeds; but grain, fruit, flax, and hemp thrive excellently. The mean temperature of the year is, at Trieste, 58° F.; at Vienna, 51°; at Lemberg, in Galicia, 44°. The rainfall ranges from 16 inches in the plains of Hungary to more than 60 inches in the neighborhood of the Alps.

Minerals. Its mineral wealth is not surpassed in any European country; it is only lately that Russia has exceeded it in the production of gold and silver. Mining has been an important pursuit in A. for centuries, and has been encouraged and promoted by the government. Bohemia, Hungary, Styria, Carinthia, Salzburg, and Tyrol take the first place in respect of mineral produce. Except platinum, none of the useful metals is wanting. The mines are partly state property, and partly owned by private individuals. The value of their yearly produce is estimated at about $13,650,000. Of this sum coal yields about a half, iron a fifth, salt a tenth, and gold and silver together one fourteenth. The number of persons employed in mines and smelting works is about 150,000, a third of whom are in Hungary. Gold is found chiefly in Hungary and Transylvania, and in smaller quantity in Salzburg and Tyrol. The same countries, along with Bohemia, yield silver. Quicksilver is found in Hungary, Transylvania, Styria, and Carinthia. Copper is found in many districts, tin in Bohemia alone. Zinc is got chiefly in Cracow and Carinthia. The most productive lead mines are in Carinthia. Iron is found in almost every province of the monarchy, though Styria, Carinthia, and Carniola are chief seats. Antimony is confined to Hungary; arsenic, cobalt, sulphur, and graphite are wrought in various parts of the empire. The useful earths and building stones are to be had in great profusion; likewise marble, gypsum, chalk, etc. Of precious and semi-precious stones are the Hungarian opal, Bohemian garnets, cornelians, agates, beryl, amethyst, jasper, ruby, sapphire, topaz, etc. A. is peculiarly rich in salt. Rock salt exists in immense beds on both sides of the Carpathians, chiefly at Wieliczka (q.v.) and Bochnia in Galicia, and in the county of Marmaros in Hungary, and in Transylvania. The annual production of rock salt is from three to four million cwt. Salt is also made at state salt works by evaporating the water of salt springs. The chief works are those at Ebensee, Aussee, Hallstadt, Ischl, Hallein, and Hall in Tyrol. From two to three million cwt. are thus produced annually. A considerable quantity is also made from sea water on the coasts of the Adriatic. The sale of salt is in A. a government monopoly. Of other salts, alum, sulphate of iron, and sulphate of copper are the chief. There are inexhaustible deposits of coal in the monarchy, and of recent years a great deal has been done to develop this particular branch of mining. At present, over 6,000,000 tons are annually raised from the mines, which are spread over all the provinces, but the richest of which are in the mountain systems of Moravia and Bohemia. A. has abundance of valuable mineral springs; about 1600 are enumerated, some of them of European reputation, as the sulphur baths of Baden in lower A., the saline waters of Karlsbad, Marienbad, Franzensbad, Teplitz, etc., all in Bohemia.

In 1870-80 the minerals of A. proper were worth $11,225,000 a year, and of Hungary about $9,500,000. The most important items are gold, silver, quicksilver, zinc, copper, lead, iron, graphite, and mineral coal. In 1884 the total value of all minerals was $[illegible]; of furnace products, $12,825,[illegible]. The number of persons engaged in mining was 91,453 and in metal works 12,0[illegible]. For the same year, the minerals of Hungary were valued at $[illegible], besides the products of the salt mines, returned at $[illegible]; while the number of persons employed in the mines and works was [illegible].

Vegetable Products. These, as might be expected from the wide range in soil and position of the different provinces, are extremely various. Although three-fourths of the surface is mountainous, more than five-sixths is productive, being used either for tillage, meadows, pasture, or forest. Grain of all kinds is cultivated most abundantly in Hungary and the districts south of it on the Danube; in Bohemia, Moravia, Silesia, and Galicia. Agriculture is not yet far advanced: the Magyar adheres to his primitive husbandry; the German and Slav have adopted more improved methods. Rice is cultivated in the Banat. Potatoes are raised everywhere; and in elevated districts are often the sole subsistence of the inhabitants. Horticulture is carried to great perfection; and the orchards of Bohemia, A. proper, Tyrol, and many parts of Hungary, produce a profusion of fruit. Great quantities of cider are made in upper A. and Carinthia, and of plum brandy in Slavonia. In Dalmatia, oranges, lemons, and a few olives are produced.

In the production of wine, A. is second only to France. With the exception of Galicia, Silesia, and upper A., the vine is cultivated in all the provinces; but Hungary stands first, yielding not only the finest quality of wine, but four-fifths the amount of the whole produce of the empire. Tokay and Carlowitz are among the best known varieties of Hungarian wine. The average produce of the whole empire is estimated at about 200 million gallons, which is mostly consumed by the inhabitants themselves.

Flax and hemp are cultivated almost universally. Tobacco is raised in great quantities, especially in Hungary, which also is first in the cultivation of rape seed. Bohemia raises hops of the first quality. Nearly a third of the productive surface is covered with wood (66,000 sq. m.), which, besides timber, yields a number of secondary products, as tar, potash, charcoal, bark, cork, etc.

Animals. Bears are found in the Carpathians, Alps, and Dalmatia; wolves and lynxes in the same districts, and also in the Banat, Croatia, and Slavonia. The marmot, otter, and beaver are also found in Dalmatia. The wild goat lives in the highest, the chamois and white alpine hare in the middle regions of the Alps and Carpathians. There are productive fisheries in the Danube, Theiss, and numerous streams, lakes, and ponds. The sea fisheries belong to Dalmatia. Leeches, procured chiefly in Hungary and Moravia, form an article of trade. For foreign commerce the most important branch of rural industry is the rearing of silk. A. produces about a quarter of a million of silk cocoons annually, the Tyrol being the chief centre of this industry.

The breeding of domestic animals is in some districts excellent, in others quite neglected. For horse breeding there are, besides a number of imperial studs, a great many private establishments, especially in Hungary, for the same purpose. The supply of cattle is not equal to the demand, although great numbers are furnished by Hungary and Galicia. The breeding of sheep, like that of horses, has been a special object of care to the government. The great mass of the wool produced is composed of what are known as middling and inferior sorts. Goats are reared chiefly in Dalmatia, and swine in Hungary. Nearly three fourths of the population are engaged in husbandry, so that Austria is an agricultural state, though its capabilities have not been fully developed.

Manufactures. The industry of Austria is not yet adequately developed, but of late years has made great strides. An official estimate of the annual value of the manufactures of the empire in [illegible] gave it at over $[illegible]. Bohemia takes the lead in this industry, then follow A. proper, Moravia and Silesia, and Hungary. Vienna is the chief seat of manufacture for articles of luxury; Moravia, Silesia, and Bohemia for linen, woolen, and glassware; Styria and Carinthia, for iron and steel wares. The chief manufactured articles of export are those of silk and wool; the only others of consequence are linen twist, glass wares, and cotton goods. The yearly value of manufactured iron is considerable. The glass wares of Bohemia are of special excellence. The hemp and flax industry is one of the oldest and most important. No branch of industry has risen more rapidly than that of cotton. The manufacture of silk is very extensive. The manufacture of tobacco is a state monopoly, and brings a revenue of nearly 60 million florins; the salt monopoly, 18 millions.

In respect of commerce, A. is most unfavorably situated. High mountains oppose great obstacles on all hands to communication, and separate the productive districts from the only sea that touches the empire; while the chief navigable rivers have their mouths in other countries. Much has been done to remedy these obstacles. Since [illegible] a great number of highways have been made. The great Alpine roads over the Stelvio Pass and the Semmering (q.v.) are among the most remarkable constructions of our times. More remarkable still are the railways over the Brenner Pass and the Semmering. The state in 1841 resolved to undertake the construction of railways, and now a tolerably complete network of railways brings all places of importance into easy communication with one another.

River communication received a great impulse from the introduction of steam. By means of the Danube Steam Navigation Company, formed in 1850, passengers and goods are now conveyed on the Danube between Ulm and Galatz, and on to Constantinople. Since 1856 the management of the navigation of this river has been intrusted to two commissions (see DANUBE), but the Austrian traffic is at least somewhat repressed by the fact that the mouth of the river is outside the limits of the empire. In 1877 the number of vessels entering the ports of Austro-Hungary was 69,594 of 8,066,428 tons; the number cleared was 69,620 of 8,075,565 tons; 83 per cent. of the vessels entering and 84 per cent. of those clearing carried the Austrian flag. In 1888, the vessels entering the port of Trieste alone numbered 7,670 of 1,368,706 tons, and 7,676 of 1,368,706 cleared the same year.

A great number of the political impediments to commerce have been removed or diminished. The customs boundary that separated Hungary and the adjoining provinces from the rest of the empire was done away in 1851, so that the whole was included in one customs district, with the exception of Dalmatia, the free ports of Trieste, Fiume, etc.; and measures have been taken to secure that these too shall be gradually incorporated with the rest of the empire. By the tariff of 1852 A. passed from a prohibitive to a protective system. No article is admitted duty-free; but absolute prohibition is confined to articles of state monopoly (salt, powder, and tobacco). But the foreign commerce of A. is nothing compared with that between the different provinces.

Commerce. Between the years 1875 and 1885 the total imports, exclusive of bullion, were smallest in 1876 ($215,980,200), and highest in 1882 ($264,397,750); the exports smallest in 1875 ($222,639,250), and highest in 1882 ($316,026,200). The chief articles of import are vegetable fibres and manufactures, the value of which amounted to $27,966,625 in 1885. The total commerce of 1888 amounted to about $266,550,000 of imports and $362,750,000 of exports. The chief imports for 1887 were: cotton, $28,250,000; wool, $21,400,000; coffee, $16,500,000; silk, $9,750,000; leaf tobacco, $9,250,000; skins, hides, and furs, $9,150,000; manufactured tobacco, $8,850,000; woollen yarn, $8,200,000; cotton yarn, $8,000,000; leather, $7,450,000; coal, $7,400,000; grain, $6,350,000; silk manufactures, $6,300,000; wool manufactures, $6,000,000; colors and tanning materials, $5,600,000; machinery, $5,600,000; clocks and hardware, $5,350,000; cattle, $5,150,000; books, $5,100,000. The chief exports, 1887, were cereals, $36,550,000; timber, $25,250,000; sugar, $22,000,000; hardware, $17,750,000; cattle, $13,250,000; woollen manufactures, $12,550,000; flour, $10,500,000; glass, $10,300,000; coal, $9,300,000; wood manufactures, $7,360,000; wool, $7,000,000; wine, $7,350,000; iron and iron manufactures, $7,350,000; paper, $6,250,000; minerals, $5,500,000; gloves, $5,450,000; poultry, $5,250,000; feathers, $5,250,000; linen yarn, $5,000,000; leather manufactures, $5,000,000; silk goods, $5,000,000. The imports of gold and silver, 1887, were $5,300,000, exports, $25,000,000. Nearly two-thirds of the whole commerce of the empire is carried on with Germany. Its next best markets are Roumania, Russia, Italy, and Servia. The direct trade with Great Britain is comparatively small; the Board of Trade returns recognizing only the trade by way of the Austrian seaboard. Between 1875 and 1885 the exports from A. to Great Britain varied from $4,136,750 (1876) to $11,161,150 (1883); and the goods imported direct from Great Britain from $5,651,750 (1877) to $2,876,050 (1880). The total value of the exports from Austro-Hungary to the United States in 1890 was $9,[illegible],000, the highest article on the list being buttons, $1,[illegible],000 or 52 per cent. of the total buttons from all countries; beet-root sugar, $[illegible],000; prunes, $857,000; earthen ware and porcelain, $513,000; linens, $514,000; chemicals, $486,000; silks, $438,000; cotton goods, $265,000; fans, $200,000; jewelry, $187,000. The total trade of the free port of Trieste in 1885 was: imports, $67,711,800; exports, $66,140,[illegible].

Railways and Postal Service. The following table shows the total length in English miles in the empire open for traffic in 1886:

	Austria.	Hungary.	Total
State lines worked by the state	2,240	2,380	4,620
" " companies	60		60
Companies' lines worked by the state	981	570	1,551
" " companies	5,042	2,692	7,734
Total	8,323	5,642	13,965

In Bosnia and Herzegovina there were at the same date three military lines, with a total length of 275 miles. In 1889, January, there were 15,270 miles of railroad in the empire exclusive of 342 miles in Bosnia and Herzegovina. In 1887, the roads carried 70,366,000 passengers and 79,169,000 tons of freight.

The zone tariff system, with reduced passenger rates, went into operation on the Hungarian lines in 1889, August, proving very successful and popular. The roads carried about 3,000,000 passengers more during the last half of the year than in the corresponding half of 1888, receipts being about $4,900,000 against $4,400,000 in 1888. The system, with some slight changes, was introduced on the Austrian roads in 1890, June. A. has 26 zones, Hungary 14. The rates of fare are about one cent a mile for third class, two cents for second class, and three cents for first class on ordinary trains; on extra trains it is 50 per cent. higher. The length of the telegraph lines in A. in 1888 was 24,904 miles with 65,469 miles of wire; number of messages, 9,199,038. In 1887 there were in Hungary 11,512 miles of line, with 42,583 miles of wire; number of messages, 3,724,370. Bosnia and Herzegovina had in the same year 1,743 miles of line, with 3,180 miles of wire, and carried 317,234 messages. In 1885 there were in A. proper 4,263 post-offices; and in Hungary, 3,613. The number of letters and packets passing through the post in 1888 in A. was 480,374,000; postal cards, 91,217,000; patterns and circulars, 59,582,000. Receipts were $13,953,055, expenses, $12,062,164; and in 1887, in Hungary, 127,567,000 letters, 30,758,000 postal cards, 20,460,000 samples and printed inclosures. These figures are exclusive of newspapers, of which about 150,000,000 were conveyed through the mails in 1888. Bosnia and Herzegovina possess 13 post offices, 11 telegraph stations, and 58 establishments combining both uses, all under control of the military authorities; but no details are issued as to their employment.

Finance. There are three distinct budgets, one for the whole empire, another for A. proper, and a third for the kingdom of Hungary. The division of the expenses of the common administration is settled by periodical agreement. According to the last apportionment, Hungary pays 2 per cent. of the common expenses in excess of the common customs receipts, and of the remainder A. pays 70 per cent. and Hungary 30 per cent., besides their share of the interest on the national debt toward the 'common expenditure of the empire,' an arrangement which renders a deficit here impossible. A common loan may be raised and the floating debt, which consists of treasury bills, is a joint obligation. Hungary contributes annually $15,306,[illegible] toward the debt contracted by the empire prior to 1868. The budget estimates for the imperial expenses for the year 1890 were $66,112,1[illegible], of which $19,976,925 represents the estimated surplus from customs, $1,436,315 the receipts from the several ministries, $883,978, Hungary's 2 per cent. and $43,804,950 the contribution from both parts of the empire. The total estimate for 1891 was $67,857,116. For the administration of Bosnia and Herzegovina in 1890, the expenditure was set down at $4,844,320, and the revenue at $4,868,[illegible]; the cost of the army of occupation being set down at $2,131,000. The accounts of A. proper generally show large deficits and of recent years a growing expenditure. In 1878 the receipts were $153,205,050; the expenses, $[illegible]; the deficit, $2[illegible]; in 1879 the receipts were $234,923,400; the expenses, $[illegible]; the deficit, $2,768,350; and in 1890 the revenue was estimated at $246,297,550; the expenditure at $250,[illegible]; deficit, $4,2[illegible]. The direct taxation amounts to about $1.92 per head of the population. The heaviest item of expenditure is the interest and sinking fund of the public debt, which has grown up gradually since the middle of last century, amounting in 1868 to about $[illegible] and in 1889 to about $2,902,100,000. The interest on the public debt amounted in 1886 to $60,746,250, of which Hungary had to contribute about $14,550,000. The special debt of A. in 1889 was $[illegible]. Since 1868 A. and Hungary have contracted all loans separately. The accounts of Hungary, with her large special debt, are hardly more promising. In 1877 the revenue was $[illegible] and the expenditure $114,253,850; in 1886 the estimates were respectively $[illegible] and $104,684,800, showing an anticipated deficit of $[illegible]. During these ten years the annual revenue has increased over 50 per cent., but in no single year has the deficit been less than $5,[illegible], while in 1879 it exceeded $16,[illegible]. In the last year, 1886, the direct taxation amounted to $2.8[illegible] per head. Of the expenditure in 1886, $36,860,000 was appropriated for interest on the special debt of Hungary, which, in the beginning of 1889, amounted to about $677,806,000. This debt has grown up mostly since 1848, and has been contracted largely in the purchase and construction of railways, the expenses of which greatly exceed the receipts.

Inhabitants. The population is very unequally distributed. The most populous districts are those of the s.w. and of the n.w. The Alpine regions and those of the Carpathians are sparsest; and generally the density diminishes toward the east. The population of A. embraces a greater number of races, distinct in origin and language, than that of any other European country except Russia. The Slavs are the most numerous race, amounting to nearly 42 per cent. of the whole population. They form the bulk of the population of Bohemia, Moravia, Carniola, Dalmatia, Croatia, Slavonia, the Woiwodina, the north of Hungary, and Galicia. They are, however, split up into a number of peoples or tribes, differing greatly in language, religion, culture, and manners; so that their seeming preponderance in the empire is thus lost. The chief branches of the Slavic stem are, in the north, the Czechs or Bohemians (the most numerous of all), Ruthenians, and Poles; and in the south, the Slovenians, Croats, Serbs, and Bulgarians. The Germans number above 25 per cent. They are dispersed over the empire, but predominate most in the duchy of A., Salzburg, Tyrol, Styria, Carinthia, and the west of Hungary. The Romance peoples (speaking languages derived from that of ancient Rome) amount to fully 9½ per cent., and are divided into western and eastern. The western consist of Italians, inhabiting the south of Tyrol, Istria, and Dalmatia; the Ladins (Latins), occupying some valleys in Tyrol; and the Friulians about Gortz, north of Trieste. The eastern Romance people are the Roumanians, who are found in Transylvania, Hungary, the Woiwodina, and the Bukowina. The Magyars, or Hungarians proper, number over 16 per cent.; they are located chiefly in Hungary and Transylvania, also in the Woiwodina, and a few in Croatia and Slavonia. The small remaining portion is composed chiefly of Jews, Armenians, and Gypsies.

The principal languages are German, Hungarian, and Bohemian. The literature of these languages will be found discussed under GERMANY, HUNGARY, BOHEMIA. The Polish (see POLAND) and Ruthenian (q.v.) languages are also spoken by many subjects; for the language of other sections of the population, see BULGARIA, CROATIA, SLAVONIC LANGUAGE AND LITERATURE.

Religion. The Roman Catholics in A. have a large preponderance over other religious bodies. In 1880 there were 25,543,000 Roman Catholics; 4,036,000 Greeks and Armenians united with the Roman Church; 2,928,000 non-united Greeks and Armenians; 3,641,000 Protestants (Lutherans, Calvinists, Unitarians)—of whom over 3,210,000 are in the Hungarian section of the monarchy; 1,643,000 Jews. The Church of Rome has 11 archbishoprics and 46 bishoprics, and an army of secular priests. At the accession of Joseph II. there were 2,024 convents; but at the end of the French war (1816) they had been reduced to 800. There are at present nearly 300 abbeys and above 500 convents in the empire.

Education. The following figures show how amply the government has provided for the educational wants of the people. In 1878 there were in the empire 32,273 volks-schulen, 143 training schools for teachers, 271 gymnasiums, 166 secondary schools, 13 schools of law, 94 theological colleges, and 752 other professional and technical institutions, including naval and military academies, and schools of science, art, music, commerce, mining, and agriculture. The universities have been already given. In 1882 Vienna had 257 teachers and 3,930 students; Pesth, 145 teachers and 2,000 students; the double university of Prague, in 1883, had 150 teachers with 1,297 students at its German and 1,980 at its Czech university. In 1886 85.1 per cent. of children of school age were in actual attendance.

Education in A. has been under the care of a minister of public worship and instruction since 1848; and in 1867 a similar minister was appointed for Hungary. Instruction, whether high or low, is mostly gratuitous, or is given at a trifling cost, being provided from general or local public funds. The primary schools in A. are to a very large extent in the hands of the clergy, and there the Roman Catholic religion forms an essential part of the instruction. The number of elementary schools has increased greatly in recent times. The law enforces compulsory attendance at the volks-schulen, or national schools, of all children between the ages of six and twelve; parents are liable to be punished for neglecting to send them, and only where Jews or Protestants have established elementary schools of their own can they keep their children from the national institutions. There is a very great difference between the German provinces and the Slavonic ones in respect of education. In Vorarlberg 82 per cent. of the inhabitants read and write; in Bukowina (1880) not quite 10 per cent. There are eleven universities in the empire, at Vienna, Prague, Grätz, Brünn, Innsbruck, Pesth (Budapest), Cracow, Klausenburg, Lemberg, and Czernowitz. Vienna, Grätz, and Innsbruck rank as German universities; Prague has since 1880 a Bohemian and a German university. There are a large number of establishments where the pupils are received young, and educated and trained for the army and navy, for the counting-house, for the mine and the farm, as accoucheurs, etc. There are also a large number of institutes for the promotion of science and art. The chief libraries are the Imperial and University libraries of Vienna. There are in the whole monarchy about 800 newspapers and other periodical prints, of which fully the half are in German. Such of them as are political are fettered by conditions which render them quite worthless as organs of public opinion.

Army and Navy. Military service is compulsory on all citizens capable of bearing arms. The term of service is twelve years—three in the standing army, seven in the reserve, and two in the Landwehr. Since 1868 the military forces of the empire have been divided into the standing army and reserve; the Landwehr (q.v.); and the Ersatz reserve, a class of conscripts intended to fill up the regiments in time of war, but enjoying a permanent furlough during peace. A law passed in 1886 added also the Landsturm, made up of volunteers not belonging to any of the other forces. The army in 1889 had on a peace footing 323,193 men, and on a war footing 1,681,138; under the law of 1886, it is expected this will be increased to 2,000,000 or more. (See the paragraph on A. in the article ARMY.) The navy is recruited partly by a levy from the seafaring population, and partly by voluntary enlistment. The term of service extends for ten years, including three in active service and seven in the reserve. The chief port for the navy is Pola, and its principal arsenal Trieste. In 1889 the navy comprised 11 armor clad line of battle ships, 7 torpedo cruisers, 1 ram cruiser, 3 torpedo vessels, 48 torpedo boats, 3 avisos, 2 monitors, 4 training ships, and 39 other vessels, altogether 118 vessels carrying 415 guns and 312 machine guns. The barbette ships Stephanie and Kronprinz Rudolf, launched in 1887, are plated with steel faced armor nine and twelve inches thick, respectively, the former carrying 2 and the latter 3 48 ton guns. The fastest ships are the Kaiser Franz, launched in 1889, and the Kaiserin Elizabeth, built 1890. These carry 8 15½ ton guns and can steam 18½ knots. The 8 torpedo cruisers are the swiftest of their class. These are manned by about 11,500 men, raised to upward of 15,000 in time of war.

Government. A. is a monarchy hereditary in the house of Hapsburg-Lorraine. In the case of the reigning family dying out, the states of Bohemia and of Hungary have the right of choosing a new king; but for the other crown lands, the last sovereign appoints his own successor. The reigning house must profess the Roman Catholic faith.

Till 1848 Hungary and Transylvania had a constitution limiting the monarchy, which was absolute for the rest of the empire; though the several provinces had each its consultative council composed of clergy, nobles, and burghers. After the Revolution of 1848 and the subsequent reaction, all marks of independence of the separate provinces disappeared. The imperial constitution granted 1849 March 4, as well as the provincial constitutions that followed, were abolished, and government was organized in the most absolute form by the imperial letters-patent of 1851 Dec. 31. The different provinces of the monarchy were divided into circles, the officials of which were nominated by the central authority. All the machinery of a free and constitutional government was set aside. In order to support itself in this course, the government sought support from the Catholic Church, with which it established the concordat of 1855. By this agreement with Rome, Catholicism became a privileged religion with control of education and of the censorship of books. Of the reforms of 1848, there remained only one of importance, the abolition of serfdom.

Since the year 1867 A. has been reconstructed as a dual empire, consisting of a German or 'Cisleithan' monarchy, and a Magyar or 'Transleithan' kingdom. Each of the two countries has its own laws, parliament, ministers, and government, and deals with the affairs exclusively relating to itself. The ministers for affairs common to the whole empire (foreign affairs, finance, army) are not responsible to either parliament, but to the Delegations. The connecting link between the two portions of the empire is constituted by a body known as the Delegations. These form a parliament of 120 members; the one half is chosen by the legislature of Germanic A., which is represented by it, and the other half represents Hungary. The person of the sovereign is another link between the two members of the empire. The Magyars claim, under certain conditions, the right of freely electing their monarch. The Delegations have control of all matters affecting the common interests of the two countries, especially foreign affairs, war, and finance; and the ministries of these three departments are responsible for the discharge of their official functions to the Delegations, a committee of which sits permanently. The acts of the Delegations require to be confirmed by the representative assemblies of their respective countries; and in this manner it is attempted to leave the self-government of both A. proper and Hungary free. These arrangements were determined by the famous Ausgleich or agreement with Hungary in 1867. The government has frequently much difficulty in fixing its political and commercial policy so as to satisfy two parliaments with equal powers of control and different views; but the great influence of the crown generally suffices to prevent a dead-lock.

The administration of A. proper is divided among seven ministries: Public Education and Ecclesiastical Affairs, Agriculture, Finance, Interior, National Defence, Commerce, and Justice. Formerly the ministry was merely the collective organ of the emperor, and was responsible to him alone. But a bill passed by the Reichsrath in 1867, and sanctioned by the emperor, renders it responsible to parliament.

The Reichsrath consists of an upper and a lower house. The upper house is composed of the princes of the imperial family who are of age, of upward of 50 nobles, 10 archbishops, 7 bishops, and 105 life-members nominated by the emperor. The lower house numbers 353 members, elected by voters of each country, arranged in the four classes of great proprietors, towns, commerce, and rural districts. In the first three classes the voting is direct; in the last, indirect. To give validity to bills passed by the Reichsrath, the consent of both chambers is required, as well as the sanction of the emperor. Thus the government of A. is both representative and constitutional.

The executive of Hungary is carried on in the name of 'the king' by a responsible ministry. See HUNGARY.

History.—The empire of A. arose from the smallest beginnings at the end of the 8th century. In 788 a Margraviate, called the Eastern Mark (q.v.; March or frontier land; see MARK, MARQUIS) was founded as an outpost of the empire of Charlemagne, in the country between the Ens and the Raab. The name Oesterreich appears first in 996. In 1156 the mark was raised to a duchy; and after coming into the possession of the house of Hapsburg in 1282, it rapidly rose to a powerful state. The princes of that house extended their dominion by marriage, by purchase, and otherwise, over a number of other states, and from 1438 held almost without interruption the throne of the German empire. By the acquisition (1526) of the crowns of Bohemia and Hungary, A. rose to the rank of a European monarchy. In 1804 Francis declared himself hereditary Emperor of A., and two years afterward resigned the title of Emperor of Germany and King of the Romans.

In the earliest times of which we know, the country of A. was inhabited by the Taurisci, a Celtic people; but these tribes subsequently disappeared before the [illegible]. After the conquest of the Norici by the Romans [illegible], the country to the north of the Danube belonged to the [illegible] of the Marcomanni; on the south of the river lay the Roman provinces of Noricum and Pannonia, in which last was the Roman post of Vindobona (Vienna). Tyrol formed part of Rhætia. All these boundaries were swept away by the irruptions of the barbarian peoples, and the regions in question were occupied in succession, during the 5th and 6th centuries, by Boii, Vandals, Goths, Huns, Lombards, and Avars

After the Lombards had settled in Italy, the Ens, about 568, became the boundary between the Bavarians and the Avars. In 796 the armies of Charlemagne destroyed the Avars, and as a bulwark of his empire in that quarter, established the East Mark, which formed the nucleus of the Austrian empire, just as the mark of Brandenburg grew into the modern Prussia. The East Mark was at first of small and varying dimensions. Early in the 10th century it was almost effaced by the Hungarians, then newly arrived in their present seats; but Otto I., having defeated them in the battle of Augsburg (955), reunited the country to Germany.

In 983 Otto appointed Leopold of Babenberg margrave of the reconquered province, whose dynasty ruled A. for 260 years. Under Henry Jasomirgott (1141-77), the mark above the Ens was annexed to the Lower Mark, the united province raised to a duchy, and important privileges conferred on the newly-named duke and his heirs. This Henry Jasomirgott took part in the second crusade; and he was one of the founders of Vienna. Under his successors, large additions (Styria, Carniola) were made to the possessions of the house. Leopold VI. undertook numerous expeditions against the Hungarians and the Mussulmans, and is reckoned the best of the Babenberg princes. The line became extinct with his successor, Frederick, who fell in battle with the Magyars (1246).

Then followed an interregnum from 1246 to 1282. The Emperor Frederick II. at first treated the duchy as a lapsed fief of the empire; but in the distracted condition of affairs, the estates of A. and Styria chose Ottokar of Bohemia as duke, who made good his nomination about 1260. Ottokar, refusing to acknowledge Rudolf of Hapsburg as emperor, was defeated, and lost his life and possessions in the great battle of the Marchfeld (1278); and the emperor elect, as head of the Holy Roman Empire, shortly afterward (1282) bestowed the vacant fiefs of A., Styria, and Carinthia on his sons Rudolf and Albert. These duchies were afterward united in the possession of Albert.

From the year 1282 the house of Hapsburg has ruled A., and has been associated with all its subsequent greatness and vicissitudes. Albert, the first duke of the line, had many difficulties to contend with, especially among his subjects, who insisted on their old privileges, but he energetically asserted his authority. He was murdered in 1308 by his own nephew. Of his five sons, Frederick was chosen (1314) by a party to the imperial throne, but was defeated (1322) by his rival, Louis of Bavaria. Duke Leopold was defeated at Morgarten (1315) in his attempt to reduce the Swiss cantons that had thrown off their allegiance to Albert I. In 1330 Albert II., another of the sons of the first Albert, succeeded to the duchy, and considerably increased the possessions of the house. After his death (1358), two of his sons, Rudolf and Albert III., successively followed in the duchy of A. Another son, Leopold, held the other lands, but lost his life at Sempach, in seeking to regain the Hapsburg possessions in Switzerland. The posterity of Albert III. and Leopold, respectively, formed the two lines of A. and Styria. During Albert III.'s reign, Tyrol and other districts were ceded to A. After his death (1395) the dukedom was held by his son, Albert IV. Albert V., who succeeded his father in 1404, by marrying the daughter of the Emperor Sigismund, succeeded (1438) to the thrones of Hungary and Bohemia, and was at the same time raised to the dignity of German emperor, as Albert II. After his death in 1439, Bohemia and Hungary were lost to the house of A.; but the imperial dignity was henceforth associated with it. With Ladislaw, Albert's son, the Austrian line of the house closed (1457), and their possessions went to the Styrian line. Of this line was the Emperor Frederick III., who raised the dignity of his house by making A. an archduchy. Through the death of the other members of the house, Frederick succeeded in uniting the dominions of A., curtailed, however, by the loss of the family possessions in Switzerland. He was succeeded in 1493 by his son Maximilian I.

The rise of A. and of the house of Hapsburg to historical eminence may be said to date from the reign of Maximilian I. (1493-1519). By marrying Mary, daughter of Charles the Bold, he acquired possession of the Netherlands. Through the marriage of their son Philip with Joanna of Spain, the houses of A. and Spain were united. As Philip died in 1506, his elder son, the celebrated Charles V., became heir to the united monarchies, and was elected emperor of Germany in 1519. Thus, by a succession of fortunate marriages, the house of Hapsburg became the most powerful dynasty in the world. This stage, at least, of Austrian history entirely justifies the well-known line:

Bella gerant alii; tu felix Austria, nube.*

Charles V., however, resigned all his German territories to his younger brother, Ferdinand I., who was thus the continuation of the Austrian branch of the line. Under Ferdinand the power of A. greatly increased, for circumstances were now to put her into the dangerous but honorable and finally powerful position of bulwark of Christian Europe against the Turks. Ferdinand had married the sister of Louis, king of Bohemia and Hungary, and when Louis fell in the disastrous battle of Mohacz (1526), he claimed both these kingdoms. His claim to Hungary was contested by John Zapolya, who secured the aid of the great Turkish Sultan Soliman, the victor of Mohacz. Soliman accordingly invaded Hungary with a powerful army, and, crushing all resistance, marched as far as Vienna, but failed in his siege of the capital (1529). Only a small part of Upper Hungary remained with Ferdinand, the rest of the country being subject to Turkey till near the close of the 17th century. Even the portion of Hungary that he held was a precarious possession, for which in 1547 he promised to pay an annual tribute of 30,000 ducats. On the abdication of Charles V. (1556) Ferdinand succeeded to the imperial dignity; he died in 1564, with the reputation of a good ruler, one strongly conservative of everything established, though he introduced the Jesuits. During his reign, however, the Reformation had made wonderful progress in the Austrian states.

In the partition of the inheritance that took place among Ferdinand's three sons, the eldest, Maximilian II., received the imperial crown along with A., Hungary, and Bohemia; the second, Ferdinand, Tyrol and upper A.; the third, Charles, got Styria, Carinthia, etc. Maximilian was more fortunate in Hungary than his father. The death of Soliman before Szigeth (1566) led to a truce; Maximilian had his eldest son, Rudolf, crowned king of Hungary in 1572, and shortly after, of Bohemia, and also chosen king of the Romans. But his attempt to bring the crown of Poland into his house failed. Maximilian II. was fond of peace, tolerant in religion, and a just ruler. He died in 1576; and of his five sons, the eldest, Rudolf II., became emperor. Under him, the possessions of the Archduke Ferdinand of Tyrol, who had married Philippine Welser (q.v.), the beautiful daughter of an Augsburg burgher, reverted to the other two lines, Ferdinand's children not being considered noble. Rudolf II. was negligent, leaving everything to his ministers and the Jesuits. His war with the Porte and Transylvania brought him little credit; and the Protestants of Bohemia, oppressed by the Jesuits, extorted from him a charter of religious liberty. In 1608, he was obliged to cede Hungary, and, in 1611, Bohemia and A., to his brother Matthias (q.v.). Matthias, who became emperor in 1612, ceded Bohemia and Hungary to his cousin Ferdinand, son of the Archduke Charles of Styria, third son of Maximilian II. Matthias lived to see the outbreak of the Thirty Years' War (q.v.), and died in 1619.

Bohemia refused to acknowledge his successor, Ferdinand II. (q.v.), to whom all the Austrian possessions had again reverted, and chose the Elector Palatine, Frederick V., the head of the Protestant Union, as king. This election gave the signal for the Thirty Years' War (q.v.), in which the house of A. took the lead, both as the champion of Catholicism, and the head of a power which aimed at universal domination in Germany and in the Christian world. The battle of Prague (1620) subjected Bohemia to Ferdinand, who formally set about rooting out Protestantism in that country and in Moravia. The emperor also succeeded in extorting acknowledgment of his sovereignty from the States of A.; and here, too, Protestantism, which had made great progress since the time of Luther, was mercilessly suppressed. Under Ferdinand's successor the Emperor Ferdinand III. (1637–57), A. continued to be a theatre of war, and at the peace of Westphalia (1648), had to cede Alsace to France. Ferdinand III.'s son and successor, Leopold I., provoked the Hungarians to rebellion by his severity. Tekeli (q.v.) received aid from the Porte and Kara Mustapha besieged Vienna (1683), which was rescued only by an army of Poles and Germans under John Sobieski hastening to its assistance. After this great deliverance of Vienna, the Turkish power continually declined. In 1686 they lost Buda, after having occupied it for nearly 150 years. Repeated defeats from the Austrian troops under Louis of Baden and the famous Prince Eugene compelled them to submit to the treaty of Carlowitz (1699), by which they were almost entirely cleared out of Hungary, Transylvania, and Croatia, and the Hapsburg dominions nearly advanced to the present frontiers. The struggle between Leopold and Louis XIV. of France for the heirship to the king of Spain, led to the war of the Spanish Succession (q.v.), during which Leopold died in 1705. He was of sluggish, phlegmatic character, and wholly under the influence of the Jesuits.

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* Let others war; do thou, Austria, [illegible] fortunate marriages.

His eldest son and successor, the enlightened Joseph I. (q.v.), continued the war. He died childless in 1711, and was succeeded by his brother, Charles VI. The peace of Rastadt, which concluded the war of the Spanish Succession in 1714, secured to A. the Netherlands, Milan, Mantua, Naples, and Sicily. In the following years, its power on the lower Danube was extended by the great victories of Prince Eugene, who completely defeated the Turks, took Belgrade and compelled them to accept the disadvantageous peace of Passarowitz (1718). But these advantages were lost in a subsequent war, concluded by the peace of Belgrade (1739), when that fortress and other conquests of Eugene were restored to Turkey.

With the death of Charles VI., in 1740, the male line of the Hapsburgs became extinct, and his daughter, Maria Theresa, who was married to the Duke of Lorraine, assumed the government. For many years it had been the aim of Charles to secure the adhesion of the European powers to the Pragmatic Sanction, by which the possessions of the Austrian crown should pass to Maria Theresa. These powers during his lifetime had promised to second his wishes, but he was no sooner in his grave than nearly all of them sought to profit by the accession of a female sovereign. A great war arose, in which England alone sided with Maria. Frederick II. of Prussia conquered Silesia. The Elector of Bavaria was crowned king of Bohemia, and elected emperor as Charles VII. in 1742. The Hungarians, however, stood by their heroic queen, who was soon able to wage a fairly successful war against her numerous foes. At the general peace of Aix la Chapelle in 1748, the power of A. remained unbroken, except that it had been obliged to give up Silesia to Prussia, and a few districts of northern Italy to her rivals there. At the death of Charles VII. in 1745, the husband of Maria Theresa was elected emperor of Germany as Francis I. The empress-queen, however, was not content with the loss of Silesia, and in 1756 entered into alliance with France, Russia, Saxony, and Sweden against Frederick. The result of the Seven Years' War (q.v.), which now ensued, was to confirm Prussia in the possession of Silesia. At Francis's death (1765), his son, Joseph II., became German emperor and joint regent with his mother of the hereditary states. Collateral branches of the house of A. sprang from the younger sons of Maria Theresa, the Archduke Leopold in Tuscany, and the Archduke Ferdinand, who married the heiress of Este (see MODENA). In the first partition of Poland (1772), A. acquired Galicia and Lodomeria, and the Bukowina was ceded by the Porte in 1777. At the death of the empress in 1780, the monarchy had an extent of 234,000 sq. m., with a pop. of 24 millions, and a debt of 82 million dollars. The administration of Maria Theresa was distinguished by unwonted unity and vigor, both in home and foreign affairs.

Her successor, Joseph II., was an active reformer in the spirit of the enlightened despotism of the times, though often rash and violent in his mode of proceeding. He introduced economy into every department, relaxed the censorship of the press, granted liberties and rights to Protestants, abolished a great number of monasteries, and revised the school system. His protective system of duties, though exhibiting his narrowness as a statesman, gave a start to native manufactures. But his reforming zeal and passion for uniformity excited opposition; the Netherlands rose in insurrection, and other disturbances broke out, which hastened his end (1790). He was succeeded in the government by his brother, the grand-duke of Tuscany, as German emperor Leopold II., who succeeded in pacifying the Netherlands, and Hungary. The fate of his sister, Marie Antoinette, and her husband, Louis XVI., led Leopold to an alliance with Prussia, against France; but he died in 1792 before the war broke out. War was declared by France on his son, Francis II., the same year (see FRANCE). By the treaty of Campo Formio (q.v.), 1797, A. lost Lombardy and the Netherlands, receiving in lieu the Venetian territory. In 1795, at the second partition of Poland, it had been augmented by West Galicia. Francis, in alliance with Russia, renewed the war with France in 1799, which was ended by the peace of Lunéville. It is needless to follow all the alterations of boundary that the Austrian dominions underwent during these wars. The most serious was at the peace of Vienna (1809), which cost A. 42,000 sq.m. of territory and 6 million dollars of her revenue. It was in 1804, when Napoleon had been proclaimed emperor of France, that Francis declared himself hereditary emperor of A. as Francis I. On the establishment of the Confederation of the Rhine, he laid down the dignity of German emperor, which his family had held for nearly four hundred years.

The humiliating peace of Vienna was followed (1810) by the marriage of Napoleon with the Archduchess Maria Louisa; and in 1812 A. figured as the ally of Napoleon in his great campaign against Russia, but she did not give much active assistance. In August of the following year A. joined the grand alliance against France; and the Austrian general, Schwarzenberg, was intrusted with the chief command of the allied forces, which at the battle of Leipzig and in the campaign of 1814 broke the power of Napoleon. The sacrifices and great services rendered by A. in the gigantic struggle received full consideration at the treaty of Vienna (1815). As recompense for the loss of the Netherlands she received Venice and Dalmatia, which afforded an outlet for her foreign trade.

After that time, A. exerted a powerful influence in European politics generally, and more especially in the German Confederation, of which her emperor was president; and that influence was uniformly hostile to constitutionalism (see METTERNICH). The death of Francis I. in 1835 made little alteration in the policy of A.; Ferdinand I. trod in his father's footsteps. The political alliance with Russia and Prussia was drawn closer by a personal conference of the emperor with Nicholas I. and Frederick William III. at Teplitz in 1833. The wonted calm was interrupted in 1840 by the war against Ibrahim Pasha in Syria, in which A. took part in union with England.

But during this long peace the internal condition of the empire was coming to a crisis. The stifling bureaucratic system of government and police supervision had produced only irritation and discontent, and was powerless to compress the fermentation. A Polish insurrection in 1846 led to the incorporation of Cracow with the monarchy. But the opposition to Austrian rule in Italy, Hungary, and Bohemia became uncontrollable; even in lower A. the Estates were among the foremost to urge reform in the direction of constitutionalism. In A., the revolutionary period of 1848-49 was one of exceptional severity, the movement for constitutional freedom being complicated by the revival of the national spirit in Hungary, Italy, and Bohemia. The time was everywhere ripe for revolt, when the fall of Louis Philippe (1848, Feb. 24) gave the signal for the outbreak of the revolutionary elements all over Europe. Nowhere was the spirit of change stronger than in Vienna, which for many months became a scene of confusion. A period of addresses and petitions for liberal reform was, in March, followed by a popular movement in the capital, to which the government and military, after a feeble resistance, succumbed. The downfall of the old system was marked by the flight of Metternich to England, by the arming of the citizens, by the granting of the freedom of the press, and other popular measures. At the same time the opposition in Hungary had carried their demand for an independent ministry responsible to a national diet, and the cabinet was not in a position to withstand it. March 22 saw the insurrection break out at Milan, and Radetzky, the military commandant, forced to retreat on Verona. Venice rose at the same time and drove out the Austrians. The Austrian power and system of government had in fact broken down.

The central power at Vienna was in a state of collapse, and the authority passed into the hands of the national guards and the students' legion, the Aula. Further troubles in the capital led to the flight of the court to Innsbruck. A Slavic insurrection broke out in Prague after Easter, which, however, was repressed with bloody severity by Prince Windischgrätz. While the emperor was lingering at Innsbruck, leaving Vienna in the power of the populace, and the Hungarians were pursuing an independent course, it was in Italy that the power of A. began to recover ground. Radetzky had at first been reduced to maintain a defensive position at Verona against the revolutionary forces led by Charles Albert of Sardinia. But in the course of the summer he took the offensive against the Sardinians, and defeated them at Custozza. The fruits of the victory were the dissolution of Charles Albert's army, and a truce which again delivered Lombardy to Austria.

In the meantime, the government at Vienna was more powerless than ever. The emperor remained at Innsbruck, and a constituent diet was opened in July by the Archduke John, as his representative. But order was never permanently restored, and affairs were brought to a crisis by the proceedings in Hungary. Jellachich, Ban of Croatia, refused obedience to the Hungarian government, a course which, while openly condemned, was secretly encouraged by the Austrian court. The Archduke Palatine Stephen left Hungary, after a last attempt at conciliation; and the emperor, who had returned to Vienna after repeated invitations, named Count Lamberg commissioner, with the supreme command in Hungary. Lamberg, however, was murdered on the bridge of Pesth (September 28). Though the dissolution of the Hungarian parliament was now declared, it continued its sittings, and appointed Kossuth president of the committee of defence. The leaders of the popular movement in Vienna were in sympathy with Hungary, and when the imperial troops were ordered to suppress the national rising there, the citizens again rose in insurrection. The arsenal was stormed and the war minister, Latour, murdered; the court fled to Olmütz, a committee of safety was appointed, the armed populace organized, and the Polish general, Bem, put at the head of military affairs. In the meantime, the military forces had withdrawn from the capital, and joined Jellachich, in order to prevent the Hungarians coming to the aid of the Viennese. Windischgrätz now laid siege to the capital, which surrendered at the end of October, after a resistance of eight days. The reaction was triumphant, and the leaders of revolt severely punished; but as Ferdinand had not shown sufficient vigor in the great crisis, he was persuaded to abdicate, and Francis Joseph was declared emperor at the age of eighteen. Thus restored, the central authority had now to assert itself in Hungary and to complete the reconquest of northern Italy. In the former country, the imperial troops had at first met with great success and retaken the capital, but they could not maintain themselves there. In Italy, Radetzky made his rapid and decisive campaign of 1849, and, by the victory of Novara, completed the overthrow of Sardinia. With the surrender of Venice, which took place in August, the subjugation of Italy was complete. At the same time, in the National Assembly at Frankfort, A. opposed the project of a confederation of states under the leadership of Prussia, and managed to thwart the conferring of the empire of Germany on the Prussian king.

In Hungary, the Magyars, though the Germans and Slavs within the country itself were hostile to them, began the campaign of 1849 with decided success. Bem conquered Transylvania. These and other successes encouraged Kossuth to proclaim the deposition of the house of Hapsburg, and the re-establishment of Hungary as a separate state. Buda was retaken from the imperial troops, which were driven back on Presburg. But the government had already solicited the aid of Russia, whose armies, entering Transylvania and Hungary, added to the imperial cause the irresistible weight of numbers. Surrounded on every side by superior forces, the Hungarians were completely beaten. It was in vain that Kossuth transferred the dictatorship to General Görgei (Görgey). Görgei, whether from treachery as the other Magyar leaders maintained or from necessity as he himself averred, laid down his arms to the Russians at Világos (Aug. 13). The surrender of Komorn, in September, completed the subjugation of Hungary, which was treated as a conquered country.

The ten years which followed on the revolutionary troubles of 1848 were a period of reaction and of absolutism. A constitution which had been granted in 1849 was soon annulled. The policy pursued was one of strong centralization under a bureaucratic government, by which the claims of nationality and of freedom were alike disregarded. Liberty of the press and trial by jury were set aside. A rigorous system of police was maintained. The aim was to Germanize the whole empire and to crush the aspirations of both Slavs and Hungarians. As the Catholic Church pronounced against national freedom, and supported the central authority, it received the greatest privileges by the Concordat of 1855.

The result of all these proceedings was only to irritate the national feeling in Hungary, Italy, and Bohemia. The finances, too, notwithstanding vigorous measures for improving the material resources of the country, continued in a bad state, so that incessant loans were required to cover the current deficit.

On the confused arena of German politics, the struggle for ascendency was kept up between A. and Prussia. In 1850 the two powers were armed and ready to come to blows with reference to the affairs of Hesse Cassel (q.v.); but the bold and determined policy of Schwarzenberg prevailed, and by the humiliating arrangement of Olmütz, Prussia gave way (see GERMANY). For a few years longer the preponderance of A. in the German Confederation was secured.

During the Crimean war, A. had a very difficult part to play. It felt its indebtedness on the one hand to Russia for help in the great crisis of 1849, on the other it could not without uneasiness see the development of Russian power in the Balkan peninsula. It occupied the Danubian principalities with the consent of Turkey, but otherwise remained neutral in action. Yet its whole influence was thrown into the scale against Russia. The Crimean war was not brought to a termination without disclosing a power which was to break the Austrian domination in Italy. Under the leadership of Cavour, Sardinia had taken part in the war, and had again brought the Italian question to the front. The rule of A. in Italy had always been unsatisfactory. From her own provinces in Venice and Lombardy she controlled the policy of the courts of central and southern Italy, and her influence tended invariably toward the suppression of national feeling and popular liberty. Sardinia was the only state that worthily represented the spirit of the Italian people. In the spring of 1859 it began to arm against Austrian supremacy. A. demanded immediate disarmament, on pain of war, but Sardinia refused. A. accordingly commenced hostilities by crossing the Ticino at the end of 1859, April. Sardinia having secured the aid of France, the Austrians were defeated, and their emperor was fain to conclude an armistice with Napoleon. On the 12th of the same month, the two potentates met at Villafranca, and concluded a peace, the chief condition of which was the cession of Lombardy to Sardinia (see ITALY). Venice was all that remained of the Italian possessions of Austria.

The rivalry of Prussia and A. for influence in the Germanic body of states dated from the rise of Prussia to be a leading power. The arrangement of Olmutz in 1850 had left a painful feeling of humiliation in the minds of the Prussian statesmen. The long rivalry was now to be brought to a decisive issue. In 1864 the combined Prussian and Austrian forces drove the Danes out of Sleswick-Holstein, but the two victors quarrelled about the subsequent arrangements. War was declared, and in 1866 the Austrian armies in Bohemia were completely beaten by the Prussians, in a campaign of seven days, which closed with the great defeat of Koniggratz, or Sadowa. The middle states of Germany which supported A. were occupied by Prussia. Sardinia, which had formed an alliance with Prussia, was, however, defeated at Custozza. The result of the contest was to exclude A. from Germany, and she had to hand over to Sardinia the province of Venetia, a cession by which she was also excluded from Italy. Thus was A. finally shut out from the scenes where for generations she had not unsuccessfully striven to uphold her supremacy. The sphere of development remaining to her was to be found in her own circle of states and in the East.

Since the great war of 1866, the history of A. has been concerned chiefly with two important interests. In the first place, the government had to attempt an arrangement of the conflicting claims and rights of the peoples constituting the empire; in the second place it has had to establish working relations with the great neighboring powers, Germany and Russia, and especially with the latter on the Eastern Question. After the collapse of 1866, the most enlightened Austrian statesmen saw that the true policy of the empire could no longer consist in repressing national claims and constitutional freedom. During the last war, the feeling in Hungary had been lukewarm, and even actively hostile to A. The Saxon Count Beust, who was now called to be the head of the Austrian foreign office, advised that an understanding with Hungary was essential. The same policy found a firm and judicious advocate in Francis Deak, an influential Hungarian. The political independence of Hungary was recognized, and the emperor was crowned king at Pesth in accordance with the old historic rites (1867). Soon thereafter he sanctioned the decisions of the Hungarian Diet concerning the relations of the kingdom of Hungary with the other countries of the empire. Such was the famous Ausgleich, or agreement between Hungary and A. proper, which has since been in force and on the whole has worked very well. It has at least been a great improvement on the previous condition of chronic ill feeling on the part of Hungary. Within the territories of A. proper there has been a large development of constitutional freedom. At the end of 1867, the first parliamentary ministry in Cisleithania was formed. The Concordat was set aside. Education was freed from the control of the Catholic Church. Marriage was placed under the jurisdiction of the civil power. The press laws were relaxed. Finally, the Prussian system of military organization was introduced. In A. itself, however, there are national claims which have not, as in the case of Hungary, been satisfied. Bohemia especially has insisted on its old historic rights, but without success; for besides other reasons, the question is complicated by the presence of about two million Germans on Bohemian soil. The Slav element in Austro-Hungary, which is so large, which is partially discontented and more or less disposed to look toward Russia as the head or centre of their race (see PANSLAVISM), is an admitted source of weakness and danger to the empire. Some of her statesmen have advocated a system of Federalism as the only method of reconciling the diverse national claims with the existence of the empire. The attempt to realize it in 1871 failed, owing to the opposition of the Germans and Magyars.

In the foreign affairs of A., the chief aim has been to find a *modus vivendi* with Germany and Russia. Since 1871 an informal alliance has subsisted between the empire and Germany; and the participation of Russia constituted for a time an 'Alliance of the three Kaisers.' But the Eastern Question is a continual source of difficulty between Russia and A. In the Russo-Turkish war of 1877-78, A.'s difficulties were aggravated by the strongly expressed sympathy of the Magyars with the Turks; and the development of Russian schemes in Bulgaria further strained relations. Bismarck gave A. the support of Germany by a formal but secret alliance, concluded in 1879, October. Italy subsequently joined the league which was renewed in 1887, February, but published only in 1888, February, when military movements in Russia, with defensive measures in Germany and A., were pointing to the likelihood of war. The terms of the Triple Alliance are generally understood to be as follows: If Russia should attack either A. or Germany without the power attacked being the aggressor, the combined military force of the two empires will be directed against Russia; if France should attack either Italy or Germany, she would be opposed by both these powers combined; and if Russia and France should unite against one or more of the allied powers the entire naval and military strength of the league would be called into immediate action. The original treaty contains three clauses: the first binds each power to assist the other if attacked by Russia; the second obliges each to remain neutral if its ally should be attacked by a power other than Russia, but to co-operate with its entire military force and only conclude a peace in common, if Russia should join the attacking power, either actively or by military movements implying menace; the third clause stipulates that the treaty be kept secret and made known to a third party only by mutual agreement; it also contains an agreement that the Russian emperor shall be informed that attack against one would be considered attack against both, in the event of Russian armaments assuming a threatening character.

Since the expulsion of A. from the Italian peninsula, her relations with the new kingdom have generally been harmonious, in spite of the question of the Italia Irredenta (q.v.). Her true sphere of action is now recognized to be in the s.e., in the valley of the

Lower Danube, and in the Balkan peninsula. But for the efficient fulfillment of this great mission she is not a little weakened by the conflicting claims and interests of the nationalities that exist within her borders. Till they are reconciled, the position of the Austro-Hungarian empire must be regarded as unstable and uncertain.

As reference to an earlier paragraph will show, in the dual monarchy there are in round numbers ten millions of Germans, six millions of Magyars, sixteen of Slavs, three of Roumans, and one and a half millions of Jews; and each of these races hates and distrusts one or more of the others. The bitterness is keenest between Germans and Czechs, Magyars and Slavs of Hungary, Magyars and Roumans. The multiplicity of races and their mutual jealousies render the task of the central government delicate and difficult; but it is in another way a source of strength for the monarchy. The principal races are so scattered over the area of the empire that joint action on the part of any one of them is impossible; thus the northern Slavs are separated from their brethren in the south. Each stock has a special affinity for a foreign power: the Germans for the empire of Germany, the Czechs for Russia, the southern Slavs for Servia, the Roumans for Roumania. Each race in the Austrian empire would if it tried to stand alone, be crushed by its rivals within the monarchy, or absorbed by the surrounding powers. The supreme condition of safety is that the various races of A. should cling closely together in danger, and should find their best bond of defence in the personal union under the emperors of the house of Hapsburg. And in spite of its lack of genius and generosity, its political blundering and frequent defeat in war, that dynasty has not seldom experienced the most devoted loyalty from the various races composing the empire.

For geography and statistics, see works by Brachelli, Hannak, Trampler, Umlauft, Klun, Strahalm, and D. Kay (Lond., 1880); for the history, Léger's Histoire de l'Autriche Hongrie (Par., 1879; Eng. trans., 1889), Coxe's History of the House of Austria, and works by Schneller, Meilath, Lichnowsky, Mayer (1874), Krones (1879).

BABYLONIA, *băb-ĭ-lō'-nĭ-a* (Babilu in the Assyrian inscriptions, Babirush in the Persian), was the name given to the low alluvial plain watered by the lower streams of the Tigris and Euphrates, now forming the modern Arab province of Irak-Arabi. In the Old Testament it bears the various names of Shinar, Babel, and 'the land of the Chaldees.' It is difficult to state the true boundaries of this rich and fertile land, for during the various periods of Babylonian and Assyrian supremacy they varied considerably. The northern boundary, from the region of Naharaim, or Mesopotamia, was formed partly by the Euphrates and its tributaries, but chiefly by a line of forts and frontier stations established by mutual arrangement between the Assyrian and Babylonian kings at various periods, this being probably the Median Wall of the classical writers. On the east the Tigris formed the natural boundary, but some portions east of that river and south of the Lower Zab at times were included in the Chaldean empire. These were the provinces of Namri, or Kurdistan. The western boundary was the Euphrates, or rather the desert to the east of that stream, for from the earliest period the fertile fringe of land along the river's bank in the neighborhood of Ur (Mugheir) and Borsippa (Birs Nimrud) was under Babylonian rule. The southern limit was the shores of the Persian Gulf, the waters of which then extended considerably farther inland, the two rivers as late as the time of Sennacherib, 705 B.C., entering the sea by separate mouths. The country has from all time been one of the most fertile spots in the whole of Western Asia, and famed for its rich corn producing qualities. Indeed Herodotus says that it supplied one-third of the corn produced by the whole Persian empire. The inscriptions afford ample confirmation of this fact, the tithe receipts of the temples showing an enormous yield of cereals. This natural fertility was greatly aided by the splendid system of artificial irrigation by a network of canals spread all over the country, many of which are navigable to the present day. The most important of these was the Nar Malka, which was serviceable as late as the 7th century A.D., and only disused when allowed to fall into decay after the Mohammedan conquest. This important artery joined the Tigris and Euphrates in North B., passing through the ancient cities of Sippara, or Sepharvaim, and Akkad, and entering the Tigris about 30 miles below Bagdad. The lines of its course are marked by the modern Yusifieh and Amran canals. This canal was probably excavated by Khammuragas in the 22d century B.C. Other important inland waterways were the Nar Kuti, or river of Kutha, the modern Habl es Sook, which passed through almost the whole length of Central B., and the Nar Essu or new river, a large canal in the neighborhood of Babylon excavated by order of Nebuchadnezzar II., 605 B.C. According to the ancient records, B. was divided into several provinces, the number and extent varying considerably at different periods in the history of the empire. The chief division appears to have been first into two large provinces of Sumir, or Shinar (South B.), the region from the Persian Gulf to Babylon, probably at one time, as some critics think, the name of all the lower valley of Mesopotamia, and Akkad, or North B., extending from the boundary of Sumir to the Assyrian and Mesopotamian frontier. The capital of this latter province was, like Babylon, built on both banks of the Euphrates, the larger half being called Sippara of Samas, 'the sun god' (the modern Abu Habbah), and the smaller half Agane, or Akkad. The latter was afterward named 'Sippara of the Flood goddess,' whence the scriptural name Sepharvaim, 'the two Sipparas.' Other minor provinces embraced within these two were Gan Duniyas, the northern part of the Akkad; and the south part of Akkad, Edena, or Eden, called also Zeru or Dura, the plain in the immediate vicinity of Babylon; Gambulu, the marsh region, now the modern Afedj, and Mat Kaldi, the land of the Chaldeans, the region bordering on the Persian Gulf and the east bank of the Euphrates.

The natural products of this fertile land were almost unbounded: corn and many other cereals, also grapes, fruits of several kinds, sesame, vegetables of several kinds, cucumbers, melons, onions, garlic. Stone being extremely rare, having to be obtained from Upper Mesopotamia or the mountains of Elam, the only building material was clay, an ample supply of which was obtainable.

Ethnology.—B., according to both sacred and classical writers, has always been a land of mixed races and tongues, and the polyglot and heterogeneous character shown by the monuments to have existed in a very remote antiquity. The earliest of the inscriptions has revealed to us the important fact that the first population was a people belonging to the Ugro-Finnic branch of the Turanian family. The linguistic connection has been confirmed by the recent discovery by M. de Sarzec of statues of these primitive inhabitants, which present an undoubted Tartar type of features. The skull is dolico-cephalic, with high cheek bones, curly black hair, the eyes oblique and bright; the type being ethnically related to the Elamites of Susiana and the Turanian Proto-Medes, to whom we find this early race linguistically related. These people, the Sumero-Akkadians, were not aboriginal to the plains of Chaldea, but came, as their traditions indicate, from the mountains to the north-east (whence the name of one branch of the family, the Akkadai or 'mountaineers') and brought with them the already fairly advanced elements of civilization, which they planted in Chaldea. At a very early period in the history of B. the Semites appear as an element in the population, their type being clearly indicated in the sculptures connecting them with the Hebrew and Northern Arabs, while the same relationship is linguistically established. From time to time, by war or commerce, other elements were introduced into the population, until almost every nation finds its representative in the 'mixed crowd of nations' inhabiting the plains of Chaldea.

The Semites having once obtained a footing in B., soon assimilated themselves to the more advanced culture of their Sumero-Akkadian masters. They borrowed the cuneiform mode of writing, the religion, mythology, and much of the science of that inventive people, and so rapidly increased in numbers and power that as early as about 3800 B.C., we find a dynasty of Semitic kings under Sargon of Akkad and his son Naram-Sin ruling in North Babylonia.

Chronology. Hitherto students of B. have been almost entirely dependent upon the fragmentary portions of the Canon of Kings drawn up by the Greco-Chaldean priest Berosus about 268 B.C.; but these lists are now confirmed and superseded by Babylonian Canon inscriptions dating from the 6th century before our era. The documents are (1) a Canon of Kings by their dynasties extending from 2200 B.C. until 647 B.C., partly mutilated, but capable of restoration; (2) Tablet of Synchronous History of Assyria and B., which gives the names of the Babylonian kings from about 1800 B.C. to 732 B.C.; (3) a Chronicle Tablet giving the chief events in B., the month and day being given in most cases, from 745 B.C. to 660 B.C.; (4) A collection of dated contract tablets extending from 680 B.C. to 150 B.C. This unequalled series of chronological documents gives an almost complete sequence to Babylonian history, and although there are still lacunae, the basis is now much more sure than when we were dependent solely upon the second-hand statements of Ctesias and Berosus.

Domestic and Social Life. The few notices in the works of Herodotus and Ctesias, and other ancient writers, afford us but a very scanty notion of the highly developed character of the social life of ancient Babylon. The recovery from the libraries and treasuries of the oldest cities of the empire of many thousands of inscribed tablets relating to almost every phase of private daily life affords us an insight into the sociology of this ancient empire, far more clear than that provided by the records of any other primitive kingdom, excepting perhaps the sister kingdom of Egypt. The child, immediately after birth was sealed with the sign of sonship, which was confirmed by witnesses; circumcision followed at the period of eight or ten days. On reaching the age of puberty, the youth was admitted to his portion as a free-born citizen, and his freedom attested to him. The Babylonian legal tablets relating to the laws of marriage certainly do not confirm the statements of Herodotus. The dowry of the woman was secured to her, and was returnable in case of divorce, while marriage was attended by both a religious and civil ceremony. Women, especially married women, occupied an exceptionally favorable position in B. Offences against the mother were punishable by mutilation and deprivation of civic rights. Women could trade and own slaves and other property in their own right. All free Chaldeans had to be educated and taught tablet writing. Slaves were protected from cruel treatment, and, if injured, had to be supported by their masters. They could own land and, if able, maintain themselves. Slaves were often apprenticed to learn trades by their masters.

The laws were administered by regular appointed judges, who sat either in the gates of the temple or in the great gate of the city. The supreme judges were called 'the judges of the king.' The decisions were all governed by certain precedents, many of great antiquity, which were drawn up and carefully preserved. The chief punishments were fines, imprisonment, deprivation of civic rights, and in some cases death. The right of appeal to the king could be claimed. The revenues were derived from a fixed tariff of taxes. The chief taxes were the 'king's tax,' apparently a tithe on all property, the army tax, and the dues levied on certain districts for ships. The local taxes were the temple tithes, called tenths (esritum), the first-fruit tax, the corn and date and sheep tax, and the road and canal dues. Numerous documents relating to these dues are now in the British Museum collection. The temples had rich estates attached to them, like the modern Arab Wakif lands, and farmed them or leased them at will. The transfer of land was regulated by fixed laws, and leases had in many cases carefully drawn plans of the estates attached to them. The standard currency was a silver one, the units being the talent, maneh, shekel, and paras. Coined money was introduced in the reign of Darius. The first coins, stamped with the figure of a bird, were perhaps the tetradrachma of Athens.

Art and Manufacture.—Babylonian art was until recently represented by a few engraved cylinders and gems; but the recent explorations on the Shat-el Hie, the site of the ancient city of Sergal or Kulunu conducted by Mr Rassam at Sippara (Abu Habba), and by M. de Sarzec at Tel-lo, have discovered statues which are really good works of art, differing from all previous examples of Babylonian art, and from the later works of the Assyrian artists. The largest of these statues is nearly life size, and represents the 'high priest' Gudea, the viceroy of the city, seated on his throne; the statue is extremely accurate in its anatomy, and carved in the hardest green diorite. The whole of the group is covered with a long inscription in archaic characters, recording the restoration of the temple by this prince in (about) 2500 B.C. Still more remarkable is a fine head carved in red porphyry, which clearly bears the appearance of being a portrait, and is true to the facial characteristics of the Sumero-Akkadian race. These statues bear a close resemblance to the remarkable statues of the early Egyptian king Kephren. The execution of these works of art indicates that the art of sculpture had been long practiced, and that tools of the most perfect temper must have been used. Along with these were found several bronze statuettes showing a knowledge of the art of casting metals. Gem engraving has always been a special feature of Babylonian art, and numerous hard stone seals have been found, the intaglio workmanship of which shows a high development of the lapidary's art. The subjects upon these are chiefly taken from the legends of Gizdhubar, or from the popular myths, while others relate to the future life. Talismanic gems bearing emblems of the gods and magical formulæ are also frequently found. The stones chiefly selected by the Babylonian lapidaries are hæmatite, green and red jasper, cornelian, chalce-

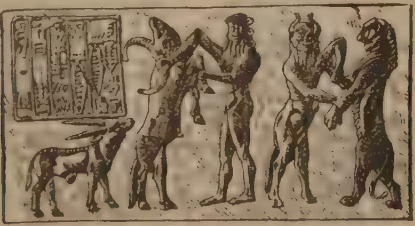


FIG. 1. Chaldean Cylinder, Marble or Porphyry. (New York Museum.)

tiony, crystal, lapis-lazuli, onyx, and sardonyx. Music formed an important feature both in the court and religious ceremonies of the Babylonians at a very early period, and on the sculptures we find the harp, pipe, and cymbals represented. Among the trades mentioned in the tablets we find the weaver, dyer, potter, smith, builder, and carpenter.

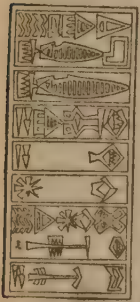


Fig. 2. Inscription upon the Sargon Stone. (From a drawing by Mr. Rylands.)

History. The discoveries of the last few years have given to the history of the ancient Babylonian empire a most surprising retrospective enlargement. It is now evident, from the monuments and inscriptions which have been obtained from the traditionally oldest cities of Chaldea that the civilization of the ancient people of B. has an antiquity rivalling that of ancient Egypt. The earliest monument of which we can accurately fix the date is a stone whorl in the British Museum, brought from Sepharvaim by Mr. Rassam. It is an oval-shaped stone, inscribed in what is called line writing—that is, writing in which the characters are formed more by lines than by the ordinary wedges, a style that goes back to a time when the hieroglyphic or pictorial system of writing was beginning to be discontinued. The king's name inscribed is that of Sargon I., king of Akkad, who is now universally assigned to the remote antiquity of 3800 B.C., and other inscriptions of this remote period are to be found in other European museums. Older still, in all probability, are the very archaic records found by M. de Sarzec at Tel lo, in the neighborhood of Erech, which, written in the ancient agglutinative dialect of the Sumero-Akkadian inhabitants, must precede the Semitic inscriptions of the northern kingdom of Sargon and his successors. These early inscriptions are mostly of a very short character, containing little more than the names and titles of the kings who ruled the cities, but at the same time they afford us information as to the state of civilization existing in Chaldea nearly 4000 years before the Christian era. The empire had not become one consolidated whole, and polyarchy was the most prevalent form of government, each city being ruled by its local king. Thus, Sargon was king of Akkad, and especially styles himself king of 'the city.' Ur-bahu and Dungi were rulers of Ur, and others held sway in the cities of Eridhu, Larsa, and Babylon. Some of these early rulers claim the titles of king of Sumir (Shinar) and Akkad, a division which in after time had the geographical signification of n. and s. B., but which in the earlier ages are certainly rather to be regarded as ethnic than local divisions of this early population. Babylon, though always one of the most important cities of the empire, was not the earliest capital, for the cradle of Chaldean civilization was in the region of the south. Here all the ancient legends connected with Gizdhubar as Nimrod are located, and find their centre in the city of Uru-ki, the Erech of Genesis, the name of which means 'the city of the land,' or capital. The next most important city in this southern region was Ur, the sacred city of the moon god, the ruins of which are marked by the mound of Mugheir, on the west bank of the Euphrates, the city from which Abram came. Larsa (Senkereh), the Ellasar of Gen. xiv., Sergul, or Kulunu, the Calneh of Genesis, now marked by the ruins of Tel-lo on the Shat el Hie, and Eridhu, 'the most sacred city of s. B., called frequently the Holy City,' were all seats of local rulers. The first ruler who succeeded in combining those various city kingdoms into one consolidated whole was Ur-bahu, whose reign must be placed about 2500 B.C. This ruler restored temples in nearly all the above-mentioned cities, and appointed 'priest-viceroys' to rule in them. He was succeeded by his son Dungi, who has left us a large number of inscriptions. Already Chaldean civilization had made great progress and was far advanced and the sciences, especially mathematics and astronomy, were studied; while the ships of Chaldea navigated the Persian Gulf. The first really historical chronicle belongs to this period and is found on a statue of Gudea, which shows the Babylonians already at war with Elam and the nations to the west. The wars with Elam form the chief features of the history of this period. In 2280 B.C. a powerful confederation of Elamites under Kudurnakhundi invaded South Chaldea, and sacked the capital, Erech, carrying away the statue of the divine patroness Nana or Istar. This dynasty lasted until about 2120 B.C., and was very powerful, as shown by the numerous inscriptions of the kings found in various parts of Babylon. Of the kings of this period two are specially important viz., Kudurmabug, who appears to have been lord paramount of the confederation of kings, and who claimed the title of 'lord of the west,' or Syria, and his son Eri aku, who was ruler of Larsa. The latter ruler is almost universally identified by Assyriologists with the Arioch, king of Ellasar, mentioned in Gen. xiv. This dynasty was overthrown by the powerful usurper, King Khammuragas, who appears not to have been of native Babylonian origin, but rather a Kassite or Cossean who had settled in the land and availed himself of this period of depression to seize the throne. This Kassite dynasty is one of the most important periods in Babylonian history, as great political changes took place at this time. It was at this period that Babylon began to assume its position as the capital of the whole empire. Khammuragas rebuilt the temples of Bel at Babylon, Nebo in Borsippa, and restored several of the sacred edifices in s. B., at Ur, Erech, and Larsa, which had suffered at the hands of the Elamite invaders. His greatest public work, however, was the construction of a canal called the river of Khammuragas, 'joy of men,' which there is little doubt was the Nar Malka, or royal river of the classics. This canal crossed n. B., passing through Sippara, and is now represented by the Yusifieh canal, one of the few ancient canals navigable to the present day. This dynasty lasted about 180 years, the founder himself ruling forty-five. The very numerous collection of inscriptions of this period in the British Museum shows that at this time B. was occupied by a much mixed population, consisting of Sumero-Akkadians, Elamites, Kassites, and a large Semitic element. The Semites appear principally as traders and merchants.

[illegible] (From a [illegible] Stone [illegible] British Museum, [illegible]

The three succeeding dynasties, extending over a period of about six hundred years, consisted of a mixture of Semitic and non-Semitic princes, who ruled with Babylon as capital. The history of this period is chiefly to be derived from the Tablet of Synchronous History, and only a few Babylonian records of the period have been preserved. One of the most important Babylonian inscriptions of this period is the memorial stone of Nebuchadnezzar I., 1150 B.C., a usurper who seized the throne, and waged war against the rising empire of Assyria. In this inscription the king records the result of a campaign against the Elamite chiefs in the region of Namar or Kurdistan, and on the banks of the [illegible] river on which the city of Susa was afterward built. The description of the campaign [illegible] is extremely graphic [illegible] In the month Tammuz he took the road; the rocks were burning [illegible] from the gardens was burned all vegetation; there was no water in the springs, and cut off were the drinking places, the strength of the great horses wearied, and to the warlike hero his courage returned." The writer thus describes the battle in which the Babylonians were undoubtedly worsted, and only saved from complete defeat by the aid of the governor of an adjacent city, who refused to surrender to the Elamites. In return for this the city has a charter of freedom granted it, declaring it free from taxes and from the usual levy for men in the time of war. The history is after this date chiefly to be derived from Assyrian sources, and it is not until the time of Nabunazu, the Nabonassar of the Canon of Ptolemy, that we have any complete sequence of Babylonian history. Our information is now chiefly derived from the important but unfortunately fragmentary Chronicle tablet already spoken of. Nabonassar, whose reign forms an important epoch in Babylonian history, ascended the throne in 747 B.C., and ruled for fourteen years. During his reign, the country was twice invaded by the Assyrians, and though they claim the victory, they do not seem to have shaken the king on his throne. Nadinu, the Nadinos of Ptolemy, who succeeded to his father's throne in 734 B.C., only ruled for two years, when one of the popular revolts unseated him and placed Ukinzir, the Chinzeros of Ptolemy, on the throne. In the third year the country was invaded by the armies of Tiglath-pileser III., king of Assyria, who drove the Babylonian king from his capital into the marshes of S. B., where he found him and put him to death, ascending his throne under the Babylonian name of Pulu, or Pul. This conquest of B. in 729 B.C. was a very important event in the history of the kingdom, for it brought the two courts of the north and south kingdoms once more into close relationship. The death of Shalmaneser IV., king of Assyria, and the usurpation of the throne by Sargon the Tartan in 722 B.C., was the opportunity seized by the Babylonians for once more becoming independent under the leadership of a prince of very ancient descent Merodach-baladan II. This prince was one of the most popular rulers of the middle Babylonian kingdom and was supported by all classes of the people, as well as by the Elamite court, who were the most powerful opponents of Assyria. For twelve years the wars in Syria and other parts of the empire kept the Assyrians from dispatching sufficiently strong forces to the south to crush this powerful prince. In 712 B.C. Sargon was purposing to march into B., when a counter action was caused by the Babylonian prince sending an embassy to Hezekiah and the other princes of Syria, and raising a revolt which called the invaders away (2 Kings, xx., 6); but in 710 B.C. the southern kingdom fell and Sargon captured Babylon, proclaiming himself king. On the assassination of Sargon in 705 B.C. Merodach-baladan returned, and after a reign of some nine months was driven from the land by Sennacherib, seeking refuge in the Elamite provinces on the east shore of the Persian Gulf. For some years B. was now ruled by viceroys and princes appointed by the kings of Assyria, although several native princes attempted revolt. In 688 B.C. Sennacherib, after a very severe campaign, in which he defeated the allied Elamites, or Babylonians, became sovereign of the two kingdoms. His son and successor Esar-haddon attempted to carry out a policy of a more conciliatory kind, and divided his time between the two courts; but the violent opposition of Egypt in Syria weakened his power, and the Elamites and Babylonians constantly harassed. Shortly before his death he appointed his son Samas-sum-yukin, the Saosduchinos of Ptolemy, ruler, which appointment was confirmed by his son and successor Assur-bani-pal. This prince, tempted by the intrigue of the Babylonian priests, revolted against his brother, and was defeated after a terrible war in which Babylon, Sippara, and Borsippa were besieged, and burned himself in his palace, 648 B.C. Kandalanu, who succeeded him, was little more than a viceroy, depending in every way upon the Ninevite court, although tablets are dated in his reign. On the disruption of the Assyrian empire after the death of Assur-bani-pal the throne of Babylon was seized by Nabu-abla-usur or Nabopolassar, the general of the Babylonian garrison, who had married a Median princess, and was himself no doubt of collateral descent from the royal line of Babylonian kings. The general disruption of the states of Western Asia which took place in 625 B.C., consequent upon the inroad of a large horde of Aryan and other invaders from the east, afforded the Babylonians an opportunity for throwing off the hated yoke of Assyria, and Nabopolassar was proclaimed king in 625 B.C. He was succeeded in 604 B.C. by his son Nebuchadnezzar, one of the greatest sovereigns who ever ruled over the ancient empire. During a long reign of forty-three years the prince succeeded in recovering the long-lost provinces of the kingdom, and once more making Babylon queen of nations. He not only restored the empire and rebuilt Babylon, but almost every temple and edifice throughout the land underwent restoration at his hands. It is an astonishing fact that not a single mound throughout B. has as yet been opened by the explorers which has not been found to contain bricks, cylinders, or tablets inscribed with his name. In 599 B.C. he captured Jerusalem, and sent Jehoiakim captive to Babylon, and eleven years later, owing to the still disturbed state of the kingdom (588 B.C.), he destroyed the city, and removed most of the inhabitants to Chaldea. Nebuchadnezzar was succeeded in 561 B.C. by his son Evil-merodach, who released Jehoiakim, but was murdered by his brother-in-law, Nergal-Sharezer, who was the rab makhu or 'chief seer' of one of the temples. His reign lasted until 556 B.C., his son Labasi Kudar, the Laborosoarchad of Ptolemy, only ruling a few months. The throne was in 556 B.C. usurped by a powerful and active prince, Nabu-nahid or Nabonidus, the son of a 'chief seer,' whose reign is the most important, next to that of Nebuchadnezzar, in later Babylonian history. The inscriptions of this king are found in almost all temples, and some of them contain important historical facts. In a cylinder found at Sippara, the king records his restoration of the temple at Kharran, which was destroyed by the Scythians, and in his sixth year, 549 B.C., he records the overthrow of Astyages, king of the Medes, and the capture of Ecbatana by Cyrus. In the king's seventeenth year the whole land of B. was in revolt against him for neglecting the duties of court and religion, leaving all to his son Belshazzar. During the summer of this year Cyrus invaded B., advancing from the neighborhood of the modern Bagdad, and reaching Sippara on the 14th day of Tammuz (June), which the garrison yielded without fighting. Two days later, Tammuz 16, Babylon is taken in the same manner. Cyrus appointed Gobryas ruler. Three months later Nabonidus, who was a prisoner, died, and after a week's mourning by the people, was buried on the 4th day of Nisan, 538 B.C. B. now became a Persian province, and under the rule of Cyrus (538-29 B.C.) and Cambyses (529-21), it appears to have been peaceful. On the accession to the throne of Darius, son of Hystaspes, the old rebellious spirit once more asserted itself, and for three years (521-19) the city held out against the Persians under Nadinta Bel, who claimed to be Nebuchadnezzar, son of Nabonidus. Again, in 513 B.C. the city revolted under Arakha, an Armenian.

With the overthrow of the Persian monarchy, B. came under the short-lived dominion of Alexander the Great, who died in that city (323 B.C.). Seleucus I., to whom it had been promised at the conference of Triparadisus, contested and won the possession of it from Antigonus (312 B.C.). About 140 B.C., it was taken from the Syrian monarchs by the Parthians. It came into the hands of the Romans only temporarily, first under Trajan (114 A.D.), under Septimius Severus (200 A.D.), and again, under Julian (363 A.D.). When in 641 the successors of Mohammed put an end to the new Persian monarchy of the Sassanides, the province of B., where Bagdad was built (762-66), became the seat of the califs till 1258. Since 1638, when the Turks for the second time took it from the Persians, it has been under the dominion of Turkey, divided into the pashalics of Bagdad and Basra.

The classic writers represent the civilization of the ancient Babylonians as of a high stamp. The government was despotic, of a kind to suit a crowded, luxurious, and effeminate population. Arts and commerce were highly flourishing; the last was carried on by caravans with Bactria, Persia, and Media, perhaps as far as India, and by shipping on the Persian Gulf with Arabia. B. was famous for its dyes, its cloths, and embroideries, especially for the manufacture of rich carpets with inwoven figures of strange animals and arabesques such as we yet see on the Nineveh sculptures. The general prosperity was such that B. and Assyria together were able to pay to Persia, in the time of Darius Hystaspes, a yearly tribute of 1,000 talents (upward of $1,358,000)—a sum greater than that contributed by any other province.

Literature.—The Babylonians, that is, the old Sumero-Akkadian population, were essentially a literary people, and the scribe caste comprised many of the highest in the land. It is evident from the numerous inscriptions as early as 2000 B.C., which are the work of private persons, that a certain amount of education was bound to be attained by every Babylonian, and that this implied access to the temple schools and libraries is certain from the directions given in certain tablets, which show the student how to ask for the works he required from the libraries. The tablets were all numbered and arranged in order according to the various sections to which they belonged, and directions were given to order the works by the numbers attached to them. The literature in the Babylonian libraries was, like the religious development in the earlier stages, largely influenced by local schools of thought, and consequently certain branches of literature represent the teachings of certain temple schools. In the most ancient school of Eridhu, the sacred city of Ea, there was established the chief centre of a school of religio-magic, who devoted themselves almost entirely to the study and composition of works on magic and kindred subjects. In this city the series of tablets known as the books of 'spells relating to diseases of the head,' consisting of more than fifty table volumes, was composed. These remarkable works, as M. Lenormant has shown, bear a close resemblance to the Atharvaveda, or Black Veda, of the Aryans. The epic poem of Gizdhubar, with its twelve books arranged according to the signs of the zodiac (see ASSYRIA), was probably the production of the school of Erech, the most ancient capital of the land, but was traditionally attributed to a scribe named Sin-liki-unini. Other poems, such as the Sumero-Akkadian version of the war in heaven, which describes the attack of the seven evil spirits on the moon, may be ascribed in all probability to the city of Ur. One of the most perfect specimens of Babylonian literature is the tablet describing the war in heaven between Merodach and the demon Tiamat, which comes from the library of the temple of Nebo at Borsippa. Of this tablet we have both Assyrian and Babylonian versions. This poem describes in most beautiful words the commission of Merodach by the great gods in assembly for the work of crushing the evil demon. The fight of this terrible nature war, and the conquest of the evil one and his allied spirits of darkness, is all described, and then the tablet closes with a remarkable hymn of praise to the victor. In fact, the literature contained in these libraries comprised every branch of learning known at the time. Historical and mythological documents, religious compositions, legal, geographical, astronomical, and astrological treatises, magic and the arts of divination, poems, fables, and proverbs. In this last branch one of the most curious specimens is the legend of the bird god Zu, 'the wise one,' who stole the tablets of destiny and the secrets of the gods, and, like Prometheus, brought them down to earth, he himself being driven away to the mountains for his sin. One important distinction between the literatures of B. and Assyria remains to be noticed: in the former the names of the writers are known in most cases, while in the latter all merit is appropriated by the king. Most of the classic works of Chaldea were copied by the Assyrians under Assur-bani-pal, and placed in the library at Nineveh, and became part of the literature of the northern empire (see ASSYRIA).

Religion.—During the long period over which the monuments and inscriptions extend, numerous changes took place in the religion of B. The early speculations of the Sumero-Akkadians were a rude fetich worship, or Shamanism, according to which every object in nature was regarded as the abode of an indwelling spirit or life (Zi), which controlled its actions and its relationship to man. Round this primitive creed grew up a body, not of priests, but rather of medicine men, or exorcists, who dealt only with the malevolent spirits of sickness and disease, and the hostile powers of nature injurious to the life of man.

The liturgy of these priests is found in the hymns and magical texts, large numbers of which have been preserved in the libraries of Nineveh and Babylon. Gradually the vast host of spirits became grouped in a hierarchy of the spirits of the heavens and the earth, and from these came the first gods of the Sumero-Akkadian pantheon. These two great spirits, so frequently invoked in the sentence, 'Oh, Spirit of the heavens, exorcise thou! Oh, Spirit of earth, exorcise thou!' became no longer spirits, but dingiri or 'creators,' and were identified by the Semitic Ilu, 'god,' and the parents of all the other gods. Under this new development, a number of local gods grew up, and each city had its divine patron, who was worshipped there with a strict henotheistic worship; that is, he alone in his sacred city was supreme among the gods. Thus, in a beautiful litany from Ur of the Chaldees, this phase of the religious life is clearly shown. 'In heaven who is supreme? Thou alone art supreme! On earth who is supreme? Thou alone art supreme!" Yet the same words appear in the local liturgies to Merodach in Babylon, and to Nebo in Borsippa. One of the earliest seats of religious culture in Chaldea appears to have been the city of Eridhu, then on the shore of the Persian Gulf, where was the seat of Ea, 'the lord of the sea.' This strange divinity, whose worship is most ancient, bears the titles of 'lord of the wave,' 'king of the deep,' 'lord of rivers,' and 'the god of boatmen;' also we find him called 'lord of wisdom,' 'he who knows all things,' 'lord of laws,' all of which titles aid us in identifying him with the mysterious fish-divinity, who taught, according to Berosus, the elements of culture to the first inhabitants of Chaldea. The consort of Ea was Dav-kina, 'the lady of the earth,' who personified the earth just as Ea represented the sea. Water and the earth were, according to the ancient theogony of the city of Eridhu, the two elements out of which all the world proceeded. This pair had a son, Tammuz, 'the only begotten one,' who, according to the creed of Babylon, was replaced by Marduk or Merodach. The worship of Tammuz, in association with his sister and consort Istar, reached a high development in B. and spread over the whole of Western Asia. Next in importance among the local deities came the god Mul-lil, the elder Bel of the Semitic creed, whose sacred city was Nipur, the modern Niffer. The great god, whose name means the 'lord of the ghost land,' was also the ruler of 'earth and mankind,' and, according to one version of the Deluge legend, was the deity who caused the destruction of the wicked men. The wife of the 'lord of the ghost land' was the goddess Nin-kigal or Allat, 'the lady of the great land, of Hades.' She was the queen who ruled in the dread 'land of no return,' and whose city and palace walls were clothed in dust, the inhabitants thereof wearing robes of feathers like birds.'

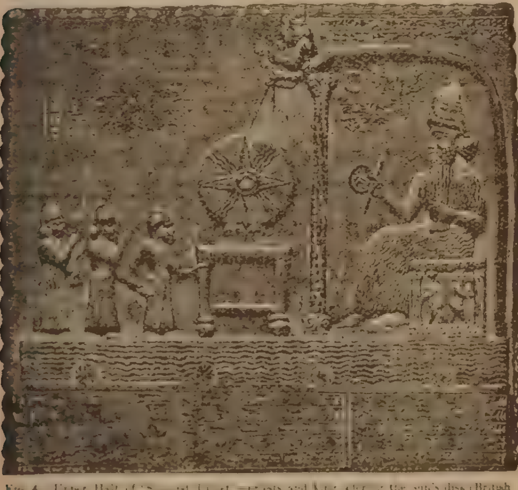


FIG. 4. Upper Half of Sippara Tablet—priests and king adoring the sun's disk (British Museum. (From a Photograph by [illegible].)

The child of this dread pair was Namtar, 'the demon of fever and goddess of fate,' who carried out the behests of his parents in spreading disease and death abroad. One of the most holy of the descendants of Mullil was the moon-god, who soon, however, became a greater even than his father, and in his sacred city of Ur, became the centre of a great religious development spreading to Kharran, and Syria, and Arabia. In the city of Ur, 'the dwelling of the moon-god' was worshipped under the name of Nannar, or Nanak, both names being preserved to us in the legends of Hellenic Asia. Some of the hymns to this deity are among the most beautiful in the sacred poetry of Chaldea. 'Merciful one, begotten of the universe, who founds his illustrious seat among living creatures. Long suffering father, full of forgiveness, whose hand upholds the lives of mankind. Lord, thy divinity is as the wide heavens, and fills the sea with its fear. On the surface of the peopled earth he bids the sanctuary be placed, he proclaims their name. The father, the begotten of gods and men, who causes the shrine to be founded, who establishes the offering, who proclaims dominion, who gives the sceptre, who shall fix destiny unto a far-distant day.' In the creed of the ancient population of B., the moon took precedence of the sun-god, the latter being the son of the former. This was probably due, as Professor Sayce has suggested, to the fact that Mullil was lord of the night-sky.

However, under the influence of the Semites, especially those of the northern cities of Sippara and Akkad, Samas the sun-god soon became the head of a special cult which absorbed many of the other older gods, and each city had its local sun-god or solar hero. The old centre of sun-worship in Chaldea was the city of Larsa, 'the dwelling of the sun-god,' where many of the oldest kings restored the great temple. It was, however, in the northern city of 'Sippara of the sun,' and in the most ancient temple of E Bábara, 'the house of lustre,' where this worship attained to its highest development. The spread of the solar worship in Chaldea received a strong impetus from the patronage of the great Semitic ruler, Sargon I. (3800 B.C.), who restored his temple. The tablet, of which a representation is given (fig. 4), was erected by Nebobaladan, king of Babylon, an ardent votary of the worship of the sun-god, about 880 B.C. The god is seated on a square seat, placed inside a porch supported by pillars, and holds in his hand a ring and a short rod. Before the pillar stands a stool with legs, bearing a figure of the disk of the sun, apparently supported by cords which are held in the hands of two attendant spirits from the roof. Of the three figures standing with their faces turned toward the disk, the first is a priest who holds the stool with his left hand, while with his right he grasps the left hand of the second figure—the king, whose right hand is raised in adoration to the god. The third figure behind the king has both hands raised in adoration. Above the heads of the three figures are the three lines of inscription, 'the image of the sun-god, the mighty lord, the dweller in the temple of Parra (or Bara), which is within Sippara.' Under the god are carvings of two figures, and above are three circles, representing the new moon, the sun, and Istar, or Venus. Exactly under these runs another inscription, and two lines run along the roof. Underneath the whole are six columns of Babylonian writing, consisting of hymns to the sun. The rise and spread of the sun-creed in B. mark a great change in the religious life of Chaldea in the meeting and amalgamation of the Semitic and Akkadian religious thought. We have no longer to deal with the dread Mullil of the ghost-land, but with a supreme Baal, the head father and creator of the universe, who rapidly absorbed all the other solar deifications in the old Sumero-Akkadian pantheon. Dumzi, or Tammuz, of Eridu, Ningirzu of Sergul, Silikh-mulu-khi of Eridhu and Babylon, all became absorbed in Bel Merodach, or Marduk, of Babylon or Samas of Sippara. It is to this age that we must assign the growth and compilation of the great epic of Gizdhubar, the sun-god which embodies so many solar legends and solar characters. From this religious reformation there grew up the worship of the great Bel Merodach, once a solar deity, but gradually as the city became the capital of the empire this local deity became the head of the pantheon, and the national god, as Assur became in Assyria. The position which Merodach attains under the religious school of the later empire is a near approach to monotheism and he visits all neglect of his worship with severe punishment. It was for neglect of his supreme power as lord of Babylon and B. that Nabonidus was visited with the rod of the Persian, and his power was recognized by the conqueror, for Cyrus calls himself the 'servant of Merodach.' Zirpanit, the consort of Merodach, was but a reflex of her lord and master, and as the goddess of wisdom she retains some traces of the former connection between Merodach and his father Ea. It is this pair that the invocations of the kings of the later Babylonian empire are directed. The temple of Bel-Merodach, or the tomb of Belos, was one of the wonders of the world. The temple stood on the east side of Babylon, and was certainly as old as 2150 B.C., when Babylon became the capital of a consolidated empire. It bore the Akkadian name of E Sagilla, 'the house of the raising of the head.' Its beautiful entrance gate, like Solomon's porch in the temple, was called 'the gate of glory,' and just within which was the sacred seat or couch of Zirpanit, the Succoth benoth of the Scriptures (2 Kings, xvii., 30). In the temple itself was the papakha or shrine of Merodach, 'the holy of holies of the gods of destiny,' which was separated from the ekal or main nave or holy place by a veil. In the centre of the court rose the great Ziggurat, called 'the house of the foundation of heaven and earth.' The ceremonies of the service in this temple present a remarkable resemblance to the Temple of the Jews. The daily morning and evening sacrifice, the meat and drink offering, the free-will offering, the sin offering, and the show-bread, all formed part of the ritual of this temple. Next in importance to Merodach was the god Nebo, who, with his consort Tasmit, was worshipped in the city of Borsippa (see ASSYRIA). Here he was associated with his goddess Tasmit, and presided at the temple of E Zida, 'the everlasting house,' the chief university of Chaldea. Several of the minor gods and spirits survived in the new and highly developed cult: Ninep, or Uras, the god of war and the chase; Nergal, the god of death; Gibil, the fire-god; and many local spirit-demons. In addition to the numerous native gods, the Babylonians incorporated many foreign divinities into the pantheon, especially those of their Kassite rulers, such as Samalia, Suga-Muna, and Kit, the Kassite sun-god.

The City of Babylon.—The accounts that we find in the ancients of the origin, the greatness, and the structure of the city are exceedingly confused. The god Belus is named as its founder, and also Queen Semiramis; how we are to understand the two statements is not explained. Semiramis, according to the account of Diodorus, employed on it two millions of workmen, collected from all parts of her dominions. With the capital of the older kingdom, the accounts of the ancients known to us have, for the most part, nothing to do; they are all to be referred to the resuscitated and adorned residence of Nebuchadnezzar. Herodotus gives a description of the city, as if from his own observation. It stood on both sides of the river, in the form of a square, the length of whose sides is variously given; by Herodotus it is stated at 120 stadia, making the whole circumference 60 miles. It must be remembered, however, that the walls, like those of most oriental towns, inclosed rather populous districts than cities, so that the whole mass of the population could easily find shelter within the space inclosed. It was surrounded by a wall 200 cubits high, and 50 cubits thick, and furnished with 100 brazen gates; the last number is raised by Diodorus to 250. The city was built with extreme regularity, with broad straight streets crossing one another at right angles, and the two parts were connected by a roofed bridge built of hewn stones, fastened together with iron clamps. Of this bridge, not a trace has yet been discovered. The western part of the city is undoubtedly the older, belonging to the early and properly Babylonish dynasty. Here stood, in the middle of the city, as it is described, the famous temple of Belus, or Baal, called by the Arabs, Birs Nimrud (see BABEL, TOWER OF). The next important point on the west side is the mass of ruins called Mujellibe, which was probably the royal citadel of the old Babylonian monarchy. On the east side of the river stood the buildings of the New Babylonian period, among which the 'Hanging Gardens' of Semiramis are to be singled out as one of the wonders of the world. Of these gardens Diodorus has left us a detailed description. Their ruins may be recognized in the mound called El Kasr. The city suffered greatly from the Persian conquest. When it revolted under Darius I, and after a siege of two years was recaptured through the ingenuity of Zopyrus, the outer walls were demolished. Xerxes plundered the temple of Belus, which had been hitherto spared, ans. Herodotus found it empty. Although the Persian kings made Babylon their residence, nothing was done for the restoration of the city; and Alexander the Great, who, on his entrance, in 331 B.C., had promised the inhabitants to rebuild the ruined temple, was unable even to clear away the rubbish, although he employed 10,000 workmen for two months. After his death in the palace of Nebuchadnezzar, and the foundation of Seleucia on the Tigris by Seleucus Nicator, Babylon went rapidly to decay. This was partly owing to the new city's being built of the materials of the old, and partly to the want of durable materials for monumental building. Stones of any size had to be brought from the mountains of Armenia; their place was mostly supplied by burned brick. As early as the time of Pausanias, there was little to be seen but the ruins of the walls. The older Arabian geographers know, indeed, of a village, Bâbil, but speak more of the great masses of ruins. Since the time of Della Valle, who erroneously looked upon the ruin Mujellibe as the tower of Belus (in which he is followed by Rennel), the site of Babylon has been the object of many travels and researches. The greater number of the explorers, among whom Rich is the most distinguished, consider the town of Hillah, with 7000 inhabitants, as the representative of the ancient Babylon. The great masses of ruins, from which we must not, with Rennel, exclude the Birs Nimrud, embrace, indeed, an enormous extent, but agree perfectly with the accounts of the ancients in being arranged in the form of a square.

Babylonian Documents. A large number of clay tablets and parts of tablets have been discovered in the tomb of a royal scribe among the ruins of Tel-el-Amarna, upper Egypt, the site of the capital built by Amenophis IV., or Khu-en-Aten. The tablets are inscribed in cuneiform characters and consist mainly of dispatches and letters from the kings and governors of Syria, Mesopotamia, Palestine, and B. to Amenophis III. and IV. At that period Palestine was garrisoned by the Egyptians, and the Egyptian deputies seem to have kept the home government thoroughly advised of all that was passing. Letters were sent from Smyrna, Megiddo, Ashkelon, Appo, or Acre, and Bybla, and mention is made of a coalition whose head was the king of Gath. One of the tablets is inscribed with a note in hieratic, which states that many tablets, with the rest of the royal archives, had been carried from Thebes to the new capital of Khu-en-Aten. About three-fourths of the tablets discovered have been placed in the British Museum and the Royal Museum at Berlin. The Berlin collection contains dispatches and letters from Tushratta, king of Mitanni, and other kings of Mesopotamia. They prove that Amenophis III. was the son-in-law of Tushratta. This confirms a representation on a scarabæus of Amenophis that he married a Mesopotamian woman. There are 85 tablets in the British Museum, several of which are valuable as showing the relations between the Egyptian and the Mesopotamian kings.

Babylonian Exploration Fund. The Babylonian Exploration Fund of Philadelphia was organized 1887, Nov., the money being subscribed by the citizens. An exploring party, sent to B. by the fund, sailed from New York, 1890, June 23.

See Oppert, Histoire des Empires de Chaldée et d'Assyrie (Versailles, 1865); Layard, Nineveh and Babylon (1867); Loftus, Travels and Researches in Chaldæa and Susiana (1857); Lenormant, La Langue primitive de la Chaldée (1875), and Manuel d'Histoire ancienne de l'Orient (9th ed., 3 vols., 1882); Sayce, Ancient Empires of the East (1884), Fresh Light from the Ancient Monuments (1885), and Hibbert Lectures (1887); Sir H. C. Rawlinson, Cuneiform Inscriptions of Western Asia (a British Museum publication, 5 vols., 1861-1884); Delitzsch, Wo lag das Paradies? (1881); Delitzsch and Haupt, Assyriologische Bibliothek (1881); Perrot and Chipiez, A History of Art in Chaldea and Assyria (1884; Eng. trans., 2 vols.) (1884); Pinches, Guide to the Nimroud Central Saloon, British Musuem (1885); the Transactions of the Society of Biblical Archæology (1872-86), and the Babylonian and Oriental Record (commenced 1886.)

BADEN, *bâ'-dĕn:* THE GRAND-DUCHY OF, is situated in the s.w. corner of the German empire between Alsace-Lorraine and Würtemburg, and is separated from Switzerland by the Rhine. Its area is 5,824 sq. m.—considerable less than that of Yorkshire.

Surface and Hydrography.—Physically, B. falls into two divisions - the w. plain, lying along the right bank of the Rhine, and the e. highlands; the former occupying about a sixth of the whole duchy. Of the mountain districts, the Schwarzwald, or Black Forest (q.v.), is the most important, and attains a maximum altitude of 4,780 ft. The Neckar highlands are lower, and n. of the Neckar valley the Odenwald begins. S. rise the extensive plateaus of the German Jura. Being drained by the Rhine and the Danube, B. belongs to the basins of two opposite seas; the sources of the Danube, however, drain only some 350 sq. m. From the Basel to below Mannheim, the Rhine is the sole and the natural boundary. Its chief tributaries on the B. side are the Neckar, the Murg, and the Elz. On the n.e. the B. territories are bounded by the Maine. Except a part of the Lake of Constance, B. has no lake of importance.

Produce.—As the difference between the highest and lowest points of B. amounts to something like 4,500 ft., there is naturally a great variety of temperature. The Rhine valley of B. is one of the warmest and most fruitful districts, not only of Germany, but of Europe. Grain, vegetables of all sorts, tobacco, hemp, rape, opium, etc., are grown, and a large quantity of wine is produced. The rearing of cattle is carried on to a large extent. Honey is also an important product.

Minerals.—The principal minerals are the products of the limestone quarries and of the clay and gravel pits, and gypsum, largely used for pavements. Coal, zinc, and manganese are found, and the production of salt and soda is important. Iron, lead, silver, and were formerly wrought in the Black Forest, but the industry has become almost unprofitable, and now receives little attention. B. is rich in mineral springs; as many as 60 are enumerated, and there are a great number of much-frequented watering-places, as Baden-Baden, Badenweiler, and others.

Manufactures, etc.—The manufactures of B. include ribbons and cotton fabrics, paper, leather, rubber goods, chemicals, machinery, tobacco, chicory, sugar, beer, trinkets, mirrors, wooden clocks, and straw plaiting; the last two are characteristic of the Black Forest, and known all over the world. Waghäussel is the largest factory of beet sugar in Germany. Of clocks alone over 700,000 are made annually. The manufactures of jewelry in Pforzheim are the most important in Germany. The chief articles of export are wine and timber.

Population, Religion, Education.—The population of B. in 1880 amounted to 1,570,186, and in 1885 it had increased to 1,656,817. The Roman Catholics in 1885 numbered 1,004,276. The ducal family are Protestant. Protestants numbered 565,236; Dissenters and Mennonites, 4,525, and Jews 27,104. The school-system of B. is excellent; it also possesses a Protestant university at Heidelberg, founded 1386, and the Catholic university of Freiburg, founded 1457. There are many lyceums, gymnasia (schools), and normal schools; the polytechnic institution at Carlsruhe is especially noted. There are 131 technical, agricultural, and other special schools, with 10,663 pupils. The inhabitants are of various origin, those to the n. being descendants of the ancient Alemanni on the river Maine, while those in the s. are Franks, and, on the s. plateau, the Swabians, named from the ancient Suevi. The several districts still retain traces of the original language, customs, and dress peculiar to each. The most of the people follow agriculture and pastoral occupation, large numbers of sheep, pigs, and goats being raised, besides cattle. Many are engaged in culture of the vine, and the mild wines produced are of good repute; and walnuts and almonds are a considerable source of revenue. Not a few of the people derive their living from the cutting of timber, and its exportation to Holland and France, B. having more forest than any other state in South Germany.

Government.—The sovereign is limited by a parliamentary constitution. The parliament consists of two chambers, the second chamber being made up of 63 representatives chosen for four years. The highest deliberative and executive body in the country is the council of state. The general debt of B. in 1886 amounted to $[illegible], which in 1890 was nearly extinguished; that on the railways (1890), $75,335,196. The military affairs of B. are now exclusively regulated by the imperial power; the troops of B. form the major part of the fourteenth corps d'armée of the empire. The effective war strength of the army is 45,000; peace, 15,000. Carlsruhe is the residence of the sovereign;

the capitals of the four 'circles' are Constance, Freiburg, Carlsruhe, and Mannheim; and besides, there are four towns each with a population above 20,000. The division of four circles is still recognized, although the laws have made 11, namely, Villingen, Waldshut, Lörrach, Offenburg, B., Heidelburg, and Mosbach, in addition to the 4 above mentioned. Besides the capital, Carslruhe, there are large towns Manheim, Freiburg (pop. 41,340), Heidelberg, Pforzheim, Rastadt, Constance, Bruchsal, and Lahr. The population is most dense in the n. and in the extreme s.w., opposite the Swiss canton Basel.

History.—The earliest inhabitants of B. known to history were the Alemanni. These fell under the dominion of the Franks, and the dukedom of the Alemanni was abolished in 748 by Pepin the Little. In the 11th century, a Duke Berthold built the castle of Zahringen in Breisgau, and a descendant of his second son took the title of Margrave of B., and became the ancester of the still flourishing house of B. He died in 1130. The present capital, Carlsruhe, was built in 1715 by the then margrave, Charles III. It is to his grandson, Charles Frederick, who succeeded in 1746, that B. owes considerable accessions of territory and political importance. By favoring the policy of Napoleon, and joining the Confederation of the Rhine, he doubled his possessions in extent and population, and acquired successively the dignity of elector and the title of grand duke. In 1811 he was succeeded by his grandson, who, after the battle of Leipzig, seceded from the confederation of the Rhine, and (1815) joined the German confederation, in which B. held the seventh rank.

The Grand-duke Charles granted (1818) the charter which forms the basis of the present constitution. Later, a fluctuating contest between a reactionary cabinet and a growing opposition was carried on till 1846, when the constitutional Bekk was made minister of the interior, and liberalism thus placed at the helm. The French revolution (February 1848) suddenly called the radical party into the most violent activity. The revolutionary leaders, Hecker and Struve, aimed at establishing a republic, and stirred up an insurrection. The troops having sided with the insurgents, the grand duke fled, and a constituent assembly was called (1849, May). The duke had recourse to Prussian aid, and after several battles, was reinstated on his throne (1849, July); but the reactionary tendency was less marked in B. than in most other German states. In 1859 a great conflict between the state authorities and the Catholic hierarchy ended in favor of the latter; two years later a definite settlement recognized the complete independence of the church, a privilege extended also to the Protestant church of B. In 1864 liberal reforms reorganized the administrative and judical systems of the country. In the conflict between Prussia and Austria in 1866, B. took her place with the enemies of Prussia, and her troops fought in two ineffective battles against the Prussians. At the peace, B. had to pay a heavy war indemnity, reorganize her army on the Prussian model, and in 1867 enter the North German Confederation. In 1870–1 the troops of B fought with distinction in the French campaign, and the grand-duchy became a part of the restored German empire. The old Catholics have since been recognized, and elementary education has been secularized. The present grand duke is Friedrich I. (b. 1826; suc. 1852); the grand-duchess Luise is daughter of King Wilhelm I. of Prussia. See GERMANY.

BAVARIA.—1.

BAVARIA, *ba-vā′ rĭ-a* (Ger. *Bayern*): one of the states of the German empire; according to its size, the second in importance. B. is divided into two unequal parts, which are separated by the Baden and Hesse-Darmstadt dominions, and of which the e. comprises fully eleven-twelfths of the whole. Its frontiers touch also on Alsace-Lorraine, Prussia, Bohemia, Austria, and the Tyrol. B. is divided into eight districts, as follows:

Districts.	Area in s. m.	Pop. in 1885.
Upper Bavaria	6,533	1,006,761
Lower Bavaria	4,202	660,802
Palatinate	2,315	696,375
Upper Palatinate	3,774	537,990
Upper Franconia	2,733	576,703
Middle Franconia	2,959	671,966
Lower Franconia	3,281	619,436
Swabia and Neuburg	3,835	650,166
Total	29,632	5,420,199

The area is a little less than that of Scotland. Munich, the capital, had (1890) 334,710 inhabitants, and Nuremberg 114,891; Augsburg and Würzburg coming next in size.

Surface, Hydrography, Railways, etc.—Bavaria is walled in on the s.e., n.e., and n.w. by mountains ranging from 3,000 ft. to close on 10,000 ft. in height. The highest elevation is reached on the s., the Zugspitz of the Noric Alps being 9,665 ft. high. The interior is intersected in several directions by various less elevated ranges, alternating with extensive plains and fertile valleys. The country is rich in wood, nearly one third of its surface being covered with forests, mostly of pine and fir.

The river Rhine flows along the whole e. boundary of the Palatinate, which is also watered by the Speyer, the Lauter, and the Queich. The Danube enters B. proper at Ulm, and pursues its course through the centre of the country, until it passes out at Passau into the Austrian dominions. Including its windings, the length of the Danube in B. is about 270 m., which can be navigated throughout. The n. part of the state is in the basin of the Maine. The lakes and rivers abound in fish. The Ludwigs-Kanal unites the Rhine and Danube, and through them the German ocean with the Black sea. B. has altogether (1890) 3,318 m. of r.r. in operation, about 9,000 m. of public roads, and over 5,300 of telegraphs.

Climate, Soil, Products, etc.—The temperature of B. varies considerably, but the climate may be described generally as mild and salubrious. The soil is very fertile, and the wealth of the country consists almost wholly of its agricultural produce. The plain s. of Munich has been described as the granary of Germany, while the districts of Upper and Middle Franconia are styled the hop garden of B. The vine is cultivated extensively in Franconia, and the wine is held in great esteem. Rhenish B. also produced good wine. The quantity annually produced in B. is estimated at 10,310,300 gals. Cattle-rearing forms the exclusive occupation of the inhabitants on the slopes and at the foot of the Alps. The forests of B. annually furnish large quantities of timber. The chief minerals are salt—which is a government monopoly—coal, and iron, which is worked almost everywhere throughout the territory.

Manufactures, etc.—The Manufacture of beer is carried to great perfection in B., and to an extent unparalleled in Europe. There are upward of 5,400 breweries in B., making about 278,000,000 gallons of beer annually, which are mainly consumed in the country. Nearly two-thirds of the revenue of the state is said to be derived from this source alone. Next to beer, coarse linens and woolens are the most important products. Glass is pretty extensively manufactured, as also are iron goods, fire-arms, toys, paper, articles of straw and wood, porcelain, nails, needles, jewellery, chemicals, beet root, sugar, and tobacco. The mathematical, optical, and musical instruments of Munich are held in high repute. The position of B. gives it a large share of the transit trade between North Germany and Austria, Switzerland, and Italy.

Population.—The growth of the population of B. has been much checked by the regulations which relate to marriages. No marriage can take place until the public authorities have been given permission; in especial, until the guardians of the poor are satisfied that the persons wishing to marry have adequate means to support a wife and family. (B. and Alsace-Lorraine are especially excepted from the law of 1868, valid elsewhere in Germany, which removed these restrictions). These restrictive laws have naturally tended to increase inordinately the number of illegitimate children. B. has a bad pre-eminence in this respect on this continent. In the capital, the illegitimate births have at times almost equalled the legitimate. In 1859 the illegitimate births were 23.6 per cent. of the whole; in 1884, 13.87 per cent. (the percentage being least in the Palatinate). In 1817 the population was 3,564,757; in 1833, 4,187,390; and in 1855, it had only increased to 4,541,556. During recent years, however, the increase has been more rapid. In 1875 the population was 5,022,390; in 1880, 5,284,000; in 1885, 5,420,199 or 182.75 to the sq. m. The Bavarians, notwithstanding their beer-bibbing propensity, are essentially a sober and industrious people. In Franconia, the people are mainly descended from the Frankish stock, in Swabia from the Allemannian; while the old Bavarian stock is represented in the districts of upper and lower B., and in the upper Palentinate.

Religion.—In 1880 the Roman Catholics numbered 3,748,032; Protestants, 1,477,312; Jews, 53,526; and other minor sects, 5,908. The state allows perfect toleration, guaranteeing the same civil rights to Catholic and Protestant alike. A concordat with Rome divides the state into two archbishoprics and six bishoprics. The revenues of the Catholic church are derived from lands and endowments, the Protestant church is supported by the state.

Bavaria has a good system of education, under the supreme direction of a minister of public instruction. Besides elementary schools, there are about 30 gymnasia, and numerous technical schools of various kinds. The three Bavarian universities are at Munich, Würzburg, and Erlangen, the last being Protestant. There are several extensive libraries in B., that of Munich being one of the largest in Germany. Art has been zealously cultivated in B., and since the days of King Louis I., has been peculiarly fostered by the state. There are numerous institutions for the furtherance of painting, sculpture, and music.

Government, Revenue, etc.—B. is a constitutional monarchy, the throne hereditary in the male line. Its constitution dates no further back than 1818, May 26, when it was declared a part of confederated Germany. When B. in 1870 became one of the states of the German empire, she still retained certain independent privileges, including the control of her home affairs, of her home affairs, of her postal system, and of her army in time of peace. The king is the executive, but his ministers are responsible for all his acts. The legislature consists of a chamber of senators and one of deputies. The senators are hereditary; the king, however, having the power, within certain limits, to nominate life members. The chamber of deputies consists of representatives in the proportion of one deputy to every 31,500 of the population.

The revenue of B. for 1890-1 amounted to $67,269,994, and the expenditure for the year was estimated at the same figure. The public debt in 1886 was $322,718,104, about two-thirds of it having been contracted for railways.

The army system was in 1871 remodelled on Prussian lines. The army in 1870 was formed into two corps of the imperial army, each consisting of two divisions, under the command of the king of B. in times of peace, but controlled by the emperor of Germany in war. On the peace footing it consists of 52,863 men, without including the *landwehr*. In time of war this force is rather more than trebled.

History.—The Boii, a race of Celtic origin, appear to have conquered the country about 600 B.C., and they retained it until shortly before the Christian era, when they were subjugated by the Romans. After the decay of the Roman power the Ostrogoths and Franks successively held possession of it, and it was a part of Charlemagne's empire. In 1180 it was transferred by imperial grant to Otto, Count of Wittelsbach, whose descendant now occupies the throne. The Rhenish Palatinate was conferred on this family by the emperor Frederick II. in 1180. Now followed quarrels between relatives, and divisions of territory, until the dukedom of B. was severed from the Rhenish and upper Palatinates (see PALATINATE); of the latter, however, it repossessed itself in 1621; the peace of Westphalia, in 1648, confirming the title of its princes to that possession, as well as its right to the electoral dignity, to which it had been raised in 1621. In the war of the Spanish succession, B. supported France, and suffered considerably in consequence; but in 1777, on the extinction of the younger Wittelsbach line, it received the accession of the Rhenish Palatinate. In 1805

BAVARIA.—3.

B. was erected into a kingdom by Napoleon I. The king assisted Napoleon in his wars, and in consideration of his aid received large additions of territory. In 1813, however, the Bavarian king contrived to change sides opportunely, and thus managed to have confirmed to him, by the treaties of 1814-5, an extent of territory nearly as valuable as the possessions which the treaties of Presburg and Vienna had given him, and which he had now to restore to Austria. In 1818 a new constitution was granted.

In 1825 Louis I. ascended the throne. He was a well-meaning, liberal, and intellectual monarch; but he lavished the wealth of the kingdom to an extravagant degree on the embellishment of the capital, and on works of art, while neglecting works of practical value. The restriction of the freedom of the press, following the French revolution of 1830, excited so much opposition that it was soon after rescinded; but fresh dissatisfaction was created by the imposition of new taxes. The Jesuits now obtained an immense influence with the king, which they used to the detriment of popular rights. The wrath of the people was further aroused against their monarch by his connection with the notorious Lola Montez, who was looked upon as an agent of the Ultramontanists. In 1848, March, following the example set by the French revolutionists, the people of Munich seized the arsenal, and demanded reforms and the expulsion of Lola Montez. The king had to consent; but in the same month he abdicated. His son, Maximilian II., ascended the throne. He died in 1864, and was succeeded by his son, Louis II. In the war between Austria and Prussia in 1866, B. took the Austrian side, and after the short struggle had to pay Prussia 30,000,000 florins ($15,000,000), and to cede some small strips of territory, in all some 300 sq. m. It also made a defensive and offensive alliance with Prussia; and in the struggle which followed between the party which aimed at bringing B. into closer and friendlier relations with Prussia and the ultramontane or patriotic party, the former had on the whole the best of it. Munich was the main centre of the old Catholic (q.v.) movement. On the outbreak of the great Franco-German war in 1870, B. put its army under the command of the Prussian Crown Prince; and the Bavarian troops took a distinguished part in the battles of Weissenburg, Wörth, Sedan, before Paris, and on the Loire. In 1870, Nov., the government agreed, on the granting of certain concessions, to become part of the German empire; and a month later it was the king of B. who, at Versailles, proposed that the imperial crown should be conferred on the Prussian king. Since then the struggle between liberals and ultramontanes has proceeded with varying success. King Louis carried his grandfather's love of art and music to excess; he finally went mad, and committed suicide by drowning, 1886, June 13. He should be remembered less for his artistic extravagances than for his generous patronage of the great composer Wagner. He was succeeded by his brother, Otho (also unhappily insane), under the regency of his uncle, Prince Luitpold.

BECHUANALAND.

BECHUANALAND, *bĕt-chô-â'na-lănd:* an extensive tract in South Africa, inhabited by the Bechuanas, extending from 28° s. lat. to the Zambesi, and from 20° e. long. to the Transvaal border. The Bechuanas also still occupy a considerable portion of the Transvaal, from which the Boers have not yet expelled them. British protection extends over B. as far as 22° s. lat. since 1884; more n., it is under the the jurisdiction of the chief of Bamangwato. To the s. of the river Molopo the territory has been proclaimed as a crown colony since 1885. Sir Bartle Frere proposed a Bechuana protectorate in 1878, and pointed out the difficulties which delay would occasion. His words were verified by after events.

The portion under British protection is in extent 170,000 sq. m., of which 43,000 sq. m. form the Crown colony, and is larger than the Transvaal. The population of the Crown colony was (1885) 44,133. The revenue for 1888-9 was $76,387. It is a portion of an elevated plateau 4,000 to 5,000 ft. above the level of the sea, and though so near the tropics, is suitable for the British race. In winter there are sharp frosts, and snow falls in some years. The rains fall in summer, and only then are the rivers full. It is an excellent country for cattle; sheep thrive in some parts, and there are extensive tracts available for corn lands; but it is not a wheat country, on account of the summer rains. Though apparently subject to droughts, it is not more so than the Cape colony, and the greater portion will be available for farming operations when the necessary dams have been constructed. It can be reached from Capetown, Port Elizabeth, Durban, Delagoa Bay, and the Zambesi. There are extensive forests to the n. e., and to the w. the Kalahari desert, which only requires wells dug to make it inhabitable.

The enormous quantities of buck which roam over the land attest the productiveness of the soil. Gold has been found near Sitlagoli, and there are indications of gold bearing quartz reefs in many directions. Diamondiferous soil is also said to exist in several localities; indeed, diamonds were discovered at Vryburg in the autumn of 1887.

The province of Stellaland is principally inhabited by Boers, and the remainder of the country by Bechuanas. The Bechuanas are a Black race possessing a language in common with the Bantu (q.v.) races of s. Africa, extending as far n. as the equator. Their ancestors are said to have come from the n., and, progressing s. w., met the Hottentots from the cape of Good Hope journeying n. The Bechuanas have divided up within the last 150 years, and comprise the Bahurutse, Bamangwato, Bakwena, Bangwaketse, Barolongs, Batlapins, and Batlaros. Each tribe has an animal as an emblem or heraldic sign, which it is said they hold in esteem: see TOTEMISM. They have since 1832 been at enmity with the Matabele, and in later years the Transvaal Boers have on one pretext or another endeavored to occupy their country. During the native risings in 1878, the Bechuanas invaded Griqualand West, and were in turn subdued by British volunteers as far as the Molopo. When the British government withdrew from B. in 1880, the natives, being helpless, were left to the mercy of the Boers of the Transvaal, whose harsh treatment in 1882-3 led to the B. expedition in 1884. At the beginning of the 19th cent., the Bechuanas were further in advance in civilization than other nations of s. Africa, and they are still ahead. The system of government among the Bechuanas would be termed in Europe local government. All important matters are decided in the public assembly of the freemen of the town, but matters are previously arranged between the chief and headmen. The chief being but the president of a committee, can only exercise real control by his personal influence and adroitness of address.

The Kuruman mission of the London society has done good work among the Bechuanas, and has greatly contributed to the well being and peace of the country. For a full account of the history of B., and Britain's dealings with it see the Rev. John Mackenzie's Austral Africa: losing it or ruling it (1887).

BELGIUM, *bel'-jē-ŭm* (Fr. Belgique), one of the smaller European states, consists of the southern portion of the former kingdom of the Netherlands (as created by the Congress of Vienna), lying between France and Holland (*i.e.* the present kingdom of the Netherlands), the North Sea and Rhenish Prussia. Its greatest length from north west to south-east is 173 miles; and its greatest breadth from north to south, 105 miles.

Area and Population.—The whole area of B. is 11,373 sq. m., or slightly over a third of that of Ireland. The population at the census of 1876 was 5,336,185, and that of 1880, 5,520,009. Beneath are given the provinces, their areas, their population 1886, December 31, and their chief towns:

Provinces.	Sq. Miles.	Pop. (1886).	Chief Cities.
Antwerp	1,093	652,061	Antwerp.
West Flanders ...	1,249	726,242	Bruges.
East Flanders....	1,158	930,847	Ghent.
Hainault.........	1,437	1,034,677	Mons.
Liège	1,117	718,656	Liège.
Brabant..........	1,268	1,074,765	Brussels.
Limburg	931	220,658	Hasselt.
Luxemburg......	1,706	216,289	Arlon.
Namur...........	1,414	335,780	Namur.
Total	11,378	5,909,975	

The estimated population at the beginning of 1889 was 6,030,043, of whom 3,008,444 were males and 3,021,599 females, showing a yearly increase of 1.15 per cent. since 1880.

At the same date the kingdom contained 26 towns with over 20,000 inhabitants. Of these, the largest were Brussels, the capital, 465,317 (including suburbs); Antwerp, 215,778; Ghent, 150,656; and Liège, 142,657.

The population of B. is of mixed German and Celtic origin. The Flemings (of Teutonic stock) and Walloons (Celtic in origin), distinguished by their peculiar dialects (see FLEMISH LANGUAGE, WALLOONS), are still conspicuous among the pure Germans, Dutch, and French. East and West Flanders, Antwerp, and Limburg are almost wholly Flemish; and Brabant mainly so. The line between the Flemish and Walloon districts is sharply defined, the Flemish part being the richest and most cultivated. The French language has gained the ascendency in educated society and in the offices of government; but the Flemish dialect prevails numerically in the proportion of nine to eight.

B. is the most densely peopled country in Europe, the population being 514 to the sq. m., as compared with 303 in Great Britain, and 42 in European Russia. In Brabant the density in 1886 was 848 per sq. m. The comparatively rapid increase of the Belgian population is due largely to the steady excess of births over deaths, which in the years 1881-85 averaged 57,800 annually. This may be compared with the returns from France during the same period, where, with an area seventeen times greater, and a population more than six times as large, the total average excess was only 93,300. The excess of immigration over emigration has increased in B. from 1850 in 1881 to 5055 in 1885. Of the total population in 1880, 2,479,750 spoke Flemish only, 2,237,870 French only (including Walloon), 41,000 German only, 420,000 Flemish and French, 25,350 French and German, 2500 Flemish and German, and 13,400 spoke all three languages. There were besides 6500 foreigners.

Physical Aspect.—B. is, on the whole, a level, and even low-lying country, diversified, however, by hilly districts. In the s.e., a western branch of the Ardennes highlands makes its appearance, separating the basin of the Maas from that of the Moselle, but attains only the moderate elevation of 2000 feet. In the northern portions of Antwerp and Limburg, a naturally unfertile district named the Campine, composed of marshes and barren heaths, extends along the Dutch frontier. In Flanders the land becomes so low that, in parts where the natural protection afforded by the dunes is deficient, dykes have been raised to check the encroachments of the sea; and the once impassable morasses of the Morini and the Menapii which stayed the progress of Cæsar's legions, are now drained and converted into fertile fields surrounded by dense plantations. Colonies having been settled on whatever patches of the sandy, marshy Campine district it was deemed possible to reclaim, it has been largely cleared and drained, and become the centre of a thriving agricultural industry. At the same time, the coast is said to be undergoing a change by which the land southward is gradually gaining on the sea, while the northern coast is losing.

Hydrography, Climate, Agriculture, etc.—The abundant water-system of B. is chiefly supplied by the great navigable rivers Scheldt and Maas, both of which rise in France, and have their embouchures in Holland. The Scheldt, like the Maas, is navigable all through B. Its tributaries are the Lys, Dender, Durme, and Ruppel. The Maas, or Meuse, receives in its course the waters of the Sambre, the Ourthe, and the Roer. These natural hydrographical advantages are increased by a system of canals (44 in number, with an entire length of 563 miles). The climate is, in the plains near the sea, cool, humid, and somewhat unhealthy; but in the higher s.e. districts, hot summers alternate with very cold winters. The mean annual temperature at Brussels is 50° F. The rainfall ranges from 27.5 inches in the w., to 40 inches in the district e. of the Maas. The Ardennes districts yield a large supply of wood, and their forests abound in game and other wild animals; while the level provinces raise all kinds of grain, wheat, rye, oats, and barley, leguminous plants, hemp, flax, colza, tobacco, hops, dye-plants, and chicory. The beet is cultivated in increasing quantities, both for sugar and for fodder. B. contains nearly 7,278,000 acres, of which almost two-thirds are in ordinary cultivation, more than one-eighth is meadow and pasture, one sixth is under wood, and less than 600,000 acres are waste or water. Some hundreds of acres are devoted to vineyards, but the wine produced is of an inferior quality. Good pasturage is found on the slopes and in the valleys of the hilly districts, and in the rich meadows of the low provinces. Gardening occupies not less than 130,000 acres; indeed, it has been said that the agriculture of B. is gardening on a large scale, so carefully and laboriously is every inch of soil cultivated by the farmers, the vast majority of whom are small holders owning less than one hectare (about two and a half acres) of land. The spade is still the principal instrument used. The interests of this class are promoted and superintended by provincial committees of practical men, who are directed by a central council, and improvements are encouraged and rewarded at quinquennial exhibitions at Brussels. The state supports four agricultural schools and nine experimental stations, including a school of forestry, to which pupils are admitted for a fixed period as boarders; and at twenty-nine middle-class state schools courses of agricultural lectures are delivered to the farmers of the district. B. is famous for its horses, and to improve the breeds a government stud of stallions is maintained at Tervueren. In the Campine, the care of bees and the cultivation of the silkworm are encouraged, and its butter is considered the best in B. There are valuable fisheries on the coast, but foreign fish being admitted free of duty, the fishermen of Holland, England, and France have proved keen competitors in the Belgian markets. This led in 1887 to repeated disputes and much bad feeling, culminating in a series of riots at Ostend.

Geology.—The geological formations of B. are closely associated with those of France and Britain. The greater portion of the country is covered with Tertiary deposits. A line drawn across the course of the Scheldt, by Mechlin, along the Demer and Maas, will have on its northern and north-western aspect a tract of Tertiary deposits, bounded northward by the sea. In these Tertiary strata the different geological periods are fully represented; but only the second, containing the Pliocene deposits, is rich in fossils. The Secondary deposits occupy an extensive tract in the centre of B., between the Scheldt and the Demer. The most important district, economically, is the south-western, consisting of Palæozoic rocks, Silurian, Devonian, and Carboniferous.

Mineral Products.—B. is rich in minerals, which, next to its abundant agriculture, constitute the chief source of its national prosperity. The four provinces in which they are found are Hainault, Namur, Liege, and Luxemburg. These yield lead, copper, zinc, calamine, alum, peat, marble, limestone, granite, slate, iron, and coal. Lead and zinc are wrought to some extent in Liege, copper in Hainault and Liege, manganese in Liege and Namur; black marble at Dinant; slates at Herbeumont; and calamine principally at Liege. But these products are insignificant compared to the superabundance of coal, from anthracite to the richest gas coal and iron, in which B. ranks next to England. The mines are superintended, under the minister of the interior, by a corps of mining engineers, one of whom is appointed over each of the six mining districts.

In 1885 there were in B. 285 coal mines open, employing 103,095 persons, and producing 17,437,600 tons, the total value of which was $29,982,100. In the same year the metallic mines produced about 200,000 tons of iron ore, 2500 of pyrites, 18,000 of calamine, 2000 of blende, 3000 of sulphuret of lead, and 450 of manganese. These mines gave employment to over 2300 workmen; but this industry has fallen off, the corresponding number of miners in 1865 having been 11,800. In 1883 there were 317 ironworks, producing manufactured iron to the value of $33,047,300, and the produce of the quarries was valued at $8,361,400.

Manufactures. The chief manufactures are linen, woolens, cotton, silk, lace, leather, and metals. Flax is one of the most valuable products of B. The great seats of the linen manufacture, the oldest in B., are in Flanders; it employs some 350,000 persons. The lace industry has fallen off in importance, but still employs 150,000 workers and a capital of two millions sterling. Centres of the woolen manufacture are Ypres, Ghent, Tournay, and especially Verviers, which alone employs 20,000 workmen in this branch of industry. Brussels and Louvain have large carpet manufactures, and Hainault supplies a considerable amount of hosiery. The principal seat of the cotton trade is Ghent, where the industry was first established in 1798. It employs over 30,000 persons. Belgian leather has a good reputation, and the manufacture of gloves has made great progress in recent years. Metallurgy, also, has rapidly increased in productiveness since 1816, when Cockerill (see SERAING) introduced into B. the English method of smelting iron with coke. The principal seats of the metal manufacture are Liége, Ghent, Charleroi, Mons, and their neighborhoods. There are large ordnance foundries at Liége and Antwerp, and celebrated makers of firearms and machinery in Liége; nail-making at Charleroi; manufactures of copper at Malines, and of tinware at Liége; wire and brass factories at Namur, Liége, and Brussels; zinc manufactures at Liége; and lead and shot factories at Ghent. Gold and silver goods are manufactured at Brussels, Liége, and Antwerp. Besides these, we may mention the straw-bonnet manufacture in the neighborhood of Liége; the calico printing at Ghent and Brussels; the paper fabrics of Brussels and Liége; the glass-works of Charleroi, Liége, and Namur, whose annual output reaches a value not far below $9,700,000; the porcelain of Tournay; and the sugar refineries, of which there were 161 in 1881. In the same year there were in B. 2575 breweries, mostly small, and 301 distilleries.

Commerce. In the middle of the 13th century, Flanders, with Bruges as its chief seat of manufactures, had surpassed all its neighbors in industry. After the discovery of America, Antwerp took the place of Bruges. But the unhappy period of Spanish oppression and the war in the Netherlands deeply depressed Flemish commerce. Separation from Holland has also been indirectly favorable to the development of Belgian resources; and its admirable network of railways (2763 miles open in 1885) has greatly promoted commerce.

The unit of the Belgian monetary system is the franc, and in 1865 B., along with France, Italy, Switzerland, and Greece, entered on a monetary league, in which these states agreed to adopt the French decimal system of coins, weights, and measures, and established a reciprocity of currency whereby their respective unit coins would have the same value throughout their territories.

In 1888 the total value of imports was about $617,449,300, and of exports about $560,005,000.

The principal imports are cereals, textile materials, vegetable substances, timber, chemicals, live animals, minerals, resinous substances, hides and skins, textile manufactures, coffee, butter and eggs, metals, animal products, yarns, wine, rice, meat, manure, oils, and fish.

The chief exports are yarns, textile materials, coal, cereals, textile manufactures, stone, hides and skins, iron and iron manufactures, machinery, vegetable substances, glass, sugar, animal products, chemicals, zinc, paper, live animals, mineral substances, resinous substances, steel, meat, and arms.

The following table shows the value of the foreign commerce of

B. in 1888 and the principal countries with which trade was carried on, the value being expressed in francs (five Belgian francs being equal to about ninety-eight cents United States currency).

COUNTRIES.	IMPORTS.	EXPORTS.
France	289,010,139	342,680,888
Great Britain	182,557,286	256,101,563
Netherlands	216,415,703	172,020,129
Germany	168,943,432	200,127,708
United States	119,816,792	52,208,194
Russia	149,783,457	5,906,538
Roumania	90,867,109	5,627,880
Argentine Republic	54,798,689	21,718,999
Sweden and Norway	48,191,826	9,293,011
India	55,915,890	4,667,116
Italy	18,829,785	24,296,197
Brazil	24,533,811	13,795,940
Spain	10,796,538	19,831,633
Peru	32,204,977	....
Switzerland	....	22,686,432

More than a third of the whole is consigned to France, and most of the remainder to Germany, England, and Holland. The carrying trade is almost entirely in the hands of the British, the native shipping, which is not increasing in number, being in 1885 only 64 vessels of 80,592 tons, with 324 fishing boats. In 1888 the vessels entering Belgian ports numbered 6839, of 4,912,601 tons, and clearances 6,915, of 4,997,498 tons. Of those entering, 1496, of 944,140 tons came from England and 268, of 478,322 tons, from the United States; of those cleared, 3542 of 1,791,732 tons were bound for English, and 285 of 473,667 tons for American ports. The merchant fleet, 1889, January 1, comprised 50 steamers of 73,384 tons and 9 sailing vessels of 4271 tons. In 1884 the imports amounted to $288,109,400, and the exports to $259,242,000. These sums exclude the value of 'goods in transit,' which is set down for the same year at $270,790,050. The commercial intercourse of B. with Great Britain in 1884 amounted to $73,758,848 for exports, and $41,228,409 for imports. The increase of Belgian commerce may be estimated from the fact that the imports and exports, respectively set down in 1831 at $18,187,500 and $19,521,250, averaged in the period 1873-82, $296,395,350 and $235,811,850.

Religion. The Roman Catholic is the dominant religion. Although full liberty of worship is guaranteed to all, and the ministers of each denomination are paid by the state, almost the entire population are Roman Catholics, the number of Protestants being set down at 15,000, of Jews at 3000. The supreme Catholic dignitaries of B. are the Archbishop of Mechlin, and the five diocesan bishops of Bruges, Ghent, Tournay, Namur, and Liege. There are over 1200 conventual houses, inhabited by 4000 monks and 21,000 nuns.

Culture. Diversity of dialects has retarded the growth of the national intellect and the formation of an independent national literature to act as the bond of national unity. The Flemish element, the most important, has done much of late to foster the Flemish tongue, and if possible secure its predominance. Flemish theatres are supported in the great towns; a Royal Academy to encourage the study of its language and literature was opened at Ghent in 1886, and in 1887 the king was constrained to make speeches in Flemish. Scientific and literary societies, museums, and public libraries are of course numerous. Great efforts are being made to improve the musical standard of the people: in 1886 there were 58 musical schools throughout the country, with 9167 pupils, and the conservatories of Brussels, Ghent, and Liege counted 3451 pupils. Painting and architecture formerly flourished in the wealthy old towns of Flanders, and although, after the brilliant epoch of Rubens and his pupils, a long period of dullness followed, in modern times a revival of art has taken place, and important academies have been founded at Antwerp and Brussels. For the achievements of the old Flemish school, see PAINTING, and the articles on RUBENS, TENIERS, VAN DYCK.

The Belgian school system has undergone many changes during the present century. In 1879 education in [illegible] schools was completely secularized; but on the succession [illegible] a Catholic ministry in 1884, the government support was withdrawn from these schools, and each parish had to decide whether its primary school should be continued at the parish's cost, or the children be sent to the church school. As a result, numerous church schools have been recognized as public schools, the others having been abolished. There are universities at Ghent and Liége, a Catholic university at Louvain, a free university at Brussels, 10 Athénées, over 150 middle class and many private schools, and four Jesuit gymnasia. Yet in 1880, 32 per cent. of the inhabitants over fifteen years of age could neither read nor write.

Literature. The older literature of the country falls to be discussed under FLEMISH LANGUAGE AND LITERATURE. Of modern authors in Flemish, Conscience (q.v.), the novelist, and Willems, the philologist are noteworthy; the work Onze Dichters, published in [illegible], is an anthology of the poets who, since 1830, have contributed to the revival of Flemish literature. Of late, however, the main current of Belgian literary activity runs mainly in the channels of politics and modern national history, and in the French tongue. Historians are Poullet, Moke, Namèche, and Juste; Laveleye is a well known publicist. Quetelet, the statistician and astronomer, was a Belgian. The Bibliotheca Belgica is a work on a large scale containing many of the chief documents of national history. The Bibliographie Nationale (1880) is a dictionary of Belgian writers and their works from 1800 to 1880; there is also a Bibliographie de l'Histoire de la Belgique.

Army. The organization of the Belgian army is established by a law of 1853, under which the peace strength is fixed at 47,000 men, to be raised in time of war to 103,000. It is intended solely for defence, and to preserve the neutrality of the territory; it is formed by conscription, to which every healthy man who has passed his nineteenth year is liable. Substitution is allowed. The legal period of service is eight years, but five of these are, as a rule, passed on furlough or in the reserve. Besides the standing army, there is a Garde Civique, numbering in 1886, 30,954 men, with a reserve of [illegible]. The Gendarmerie consisted, in the same year, of [illegible] officers and 2181 men. The importance of B. in a military point of view affords a reason for the maintenance of fortifications at Antwerp, Dendermonde, Namur, Diest, Liége, and other places. The chief arsenal is at Antwerp.

Finances. In the ordinary budget for 1887 the estimated revenue of B. was $[illegible]; and the estimated expenditure, $60,432,-[illegible]. The budget for 1890 estimated the revenue at about $66,519,282 and expenditures at $64,218,[illegible]. The general budget for 1891 places ordinary receipts at about $[illegible],140, and ordinary expenditures at $[illegible]. In accordance with established custom the extraordinary budget includes expenditures properly belonging to the ordinary budget, amounting to about $12,300,000, thus converting the [illegible] surplus into a deficit. The extraordinary expenditures are mainly for fortifying the Meuse and building harbors at [illegible] and [illegible]. The entire expenditures may be met with [illegible], as the actual receipts usually exceed the estimated revenue. The national debt amounted in 1886 to $[illegible],450, but, if the annuities were capitalized at 5 per cent., the total debt would [illegible]. The total debt in 1890 was about $[illegible], of which $[illegible] paid 2½ per cent., and $102,208,-[illegible] per cent. interest. The interest is more than covered by the revenue from the railways, for which the debt was almost entirely contracted.

Railways, Telegraphs, and Posts. The railroads open to traffic, 1889, January 1, had a total length of 2801 m., of which about two-thirds were under state management and one-third operated by companies. The receipts were about $[illegible],519 on the state lines in 1888 and the expenses $[illegible]; on the companies' lines the receipts were $[illegible], and expenses $[illegible],121. The total cost of the state railroads was about $[illegible]. The telegraph lines at the end of 1888 were [illegible] miles long with [illegible] miles of wire. The number of messages sent in 1888 was [illegible]; receipts, about $[illegible]; expenses, $[illegible]. During 1888 the post office carried [illegible] letters, exclusive of [illegible],226 official letters, [illegible] postal cards, [illegible] circulars, etc., and [illegible] newspapers; receipts were about $3,0[illegible], and expenses $1,759,340.

Government. The government of B. is a limited constitutional monarchy, and was established in its present form by the revolution of 1830. The succession is hereditary, females being excluded. The ministry includes departments for home affairs, foreign affairs, finance, justice, public works, and war. The administration of justice is governed by the Code Napoléon. The legislative body consists of two chambers—the Senate, and the Chamber of Representatives, non-resident members of the latter body being paid a small salary during the session. The number of representatives in 1884 was 138, sent by 41 electoral districts. Electors must be Belgians by birth or naturalization, must have attained 25 years of age, and pay taxes, each to the amount of about $7.90. Under this qualification there were in 1886 but 128,050 electors. Members of the Chamber of Representatives require no property qualification. The Senate consists of half the number of members, and is elected by the same constituency, but for eight years instead of four. A senator must be 40 years of age, and must pay at least $486 of direct taxes.

History. The history of B. properly dates from the year 1831, when the Southern Netherlands parted from Holland and were constituted into a separate and independent kingdom. The narrative prior to 1831 of the provinces forming the present B. will be found under NETHERLANDS. But it may be well to introduce our account of Belgian history with a brief sketch of its previous development. On the downfall of the Roman empire, the Gallia Belgica of the Romans passed under the dominion of the Franks. As the feudal system arose, the country was distributed under a number of dukes and counts with a considerable measure of local independence. These provinces were absorbed by the great house of Burgundy from 1385 onward, and they continued under that rule till the downfall of Charles the Bold in 1477. With his daughter Mary they then passed to the house of Hapsburg, and remained with the Spanish branch of that line till the peace of Utrecht in 1713, being known as the Spanish Netherlands to distinguish them from the northern provinces, which, in the reign of Philip II., had revolted from Spain, and formed a Protestant republic, while the southern provinces continued subject to the Roman Catholic Church. In 1713, by the peace of Utrecht, the Spanish provinces were transferred from Spain to Austria, as the Austrian Netherlands. The country was conquered by Pichegru in the campaign of 1794, and subsequently united to France by the treaties of Campo-Formio and Lunéville. It now shared the fortunes of France during the Consulate and the Empire, received the Code Napoléon, and in all political relations was organized as a part of France. After the fall of Napoleon it was united with Holland under Prince William Frederick of Nassau, and its boundaries were defined by the Congress of Vienna (1815, May 31). In the campaign of 1815 B. was once again, as it had often been, the 'battlefield of Europe;' and Belgian troops were present at Waterloo.

The union of what had been the Spanish or Austrian Netherlands to Holland in 1815 was from the first an arbitrary one, as the people of the northern and southern parts of the united kingdom differed essentially in religion, language, interests, and historic feeling. Nor was the policy of the Dutch fair or conciliatory. The Dutch almost exclusively occupied the higher posts in the army and administration. The use of French in the southern provinces was discouraged, and the privileges of the Catholic clergy were curtailed. Old feelings of patriotism and the interests of self-government were equally disregarded. Thus, Liberals and Catholics were alike ready to revolt against Dutch supremacy, and the concessions tardily made to satisfy the growing discontent did no good. The outbreak of the French Revolution in 1830 set the example to the discontented across the frontier. On the king's birthday (1830, August 24), several riots occurred in various towns of B. At this period, however, the idea of separation from Holland does not seem to have presented itself consciously to the Belgian mind; the deputies who were sent to the Hague to state the causes of the general dissatisfaction merely insisted on Belgium's possessing a separate administration, with the redress of particular grievances. But the dilatory and obstructive conduct of the Dutch deputies in the States-general assembled at the Hague on September 13, together with the ill-advised occupation of Brussels by an army of 14,000 men, exasperated the Belgian nation beyond measure. A new and more resolute insurrection instantly took place. In seven days the people had deposed the old authorities and appointed a provisional government. Prince Frederick, the son of the Dutch king, who commanded the troops, was compelled to retreat from Brussels to Antwerp, having suffered considerable loss. On October 4, B. was declared independent by the provisional government. The useless bombardment of Antwerp by the Dutch general Chassé (October 27) increased the bitterness of feeling and rendered reconciliation wholly impossible. At the national congress of November 10, out of 200 votes only 13 were in favor of republican government. Meanwhile, the London Congress had assembled, and after mature deliberation, the representatives of Austria, Prussia, Russia, and England recognized the severance of the two kingdoms as a *fait accompli*

Palais de Justice, Brussels, erected 1866–83, cost, $10,000,000.

(December 20). When the Belgian Congress met, it appointed Baron Surlet de Chokier provisional regent, but 1831, June 4, it elected Prince Leopold of Saxe-Coburg king of the Belgians. Leopold entered Brussels on July 21 and subscribed the constitution. His marriage to a daughter of Louis Philippe secured French support. Holland refused to acknowledge the validity of the decision of the London Congress, and declared war, which was speedily terminated by France and England, Holland securing that B. should annually pay [illegible] as interest for its share in the national debt of the Netherlands. And it was agreed by the powers that B. should remain an independent and perfectly neutral state. Holland, however, was still dissatisfied, and ventured to employ force. England and France were compelled to interfere. The French besieged and took Antwerp, still held by the Dutch troops; and the blockade of the coast of Holland having brought the Dutch to terms, the dispute was closed by a treaty signed in London, 1833, May 21.

In 1838 it seemed as if Holland and B. were likely to engage in war once more. According to the 'twenty-four articles' of the 'Definitive Treaty,' B. was under obligation to give up Limburg and a part of Luxemburg during the above-mentioned year. This it now refused to do, and put its army on a war footing; but its obstinacy finally gave way to the unanimous decision of the five great powers, and 1839, April 19, a treaty of peace was signed at London, Belgium's annual share of the Netherlands' debt being at the same time reduced to $2,431,500; and both Limburg and Luxemburg being partitioned between Holland and Belgium.

After 1840 the opposition of the Catholic to the Liberal party became more and more decided, the educational laws not being satisfactory to the clergy, until in 1845, July, the liberal Van de Weyer endeavored to confirm the so-called 'union' of the two parties. In 1846 a purely Catholic ministry took office; but in 1847 a liberal ministry was formed by Rogier. The revolutionary tempest of 1848 menaced the tranquillity of the country; but the king disarmed hostility by promptly declaring himself ready to retain or to surrender the crown of B., according to the decision of the people.

In 1848, July, the elections greatly strengthened the liberal-constitutional party, and in 1850 the educational question was supposed to be settled on soundly liberal principles; but since then there has been a keen and continued struggle beween Progressists and Ultramontanes, the balance of power shifting from time to time. Thus liberal ministries have been in power from 1857 to 1864, and in 1878 (under Frère-Orban); clerical ministries in 1870, 1876, 1880, and 1884, the education question being the chief bone of contention. On the death of Leopold I. in 1865 his son had succeeded as Leopold II. In 1861 B. took part in the London conference for settling the Luxemburg question, which threatened to plunge Europe in war, but did not sign the guarantee for the neutrality of Luxemburg. On the outbreak of the Franco-German war in 1870, the Belgians, fearing risks both from Prussia and from France, mobilized their army; but in a special treaty arranged by England, both belligerents recognized anew the neutrality of B., guaranteed in 1831 and 1839. In 1885 the Congo Free State (q.v.), under the presidency of Leopold II., was acknowledged by the powers. Although the country has on the whole steadily grown in prosperity, and constitutional principles have been generally strengthened, yet 1886-87 witnessed industrial riots and Socialist disturbances of a serious aspect, attended at Liège, Mons, Charleroi, and other places, with great violence. The king at the opening of the chambers in November promised that measures of reform should be introduced, and this had the effect of quelling the disturbances. In 1880 the jubilee of the state was celebrated with much enthusiasm.

Compare Flanders and the articles on the several provinces; see also Genonceaux, La Belgique (1879); Hymans, La Belgique Contemporaine (1880); Wauters, La Belgique, Ancienne et Moderne (1882 ff.); the Annuaire Statistique; and the histories by Juste (4th ed., 1868), Moke (7th ed., 1881), and Hymans (5 vols., 1880).

BELUCHISTÁN, *bĕl ô' chĭs-tân'*, or BALUCHISTAN: a country of Southern Asia, bounded on the n. by Afghanistan, on the e. by Sind, on the s. by the Arabian Sea, and on the w. by the Persian province of Kerman. The frontier toward Afghanistan is seldom anywhere clearly defined, but that toward India is more carefully laid down. B., which has a coast line of over 500 miles, corresponds in general with the ancient Gedrosia, excepting that the latter name appears to have extended to the Indus, while the former nowhere reaches that river. The area is about 106,000 sq. m., and the pop. is estimated at some 400,000. Though it was anciently a part of Persia, yet its modern relations connect it rather with India, more particularly since Sind and Multan have fallen under the dominion of the English. In the bygone ages, the Beluchi Desert formed a barrier for the Lower Indus, constraining every assailant from Alexander downward to prefer the less barren, though perhaps more rugged, route through Afghanistan into the Punjab, a preference strengthened by Alexander's direful experience in returning from the Indus along the coast. Until 1810 B. was almost entirely a *terra incognita* to Europeans. Most of the country indeed is still unknown, but it has been crossed by several travelers; and the laying of the Indo-Afghan railway (completed to Quetta, 1887, March) through the ninety miles of desert in the north-east, as well as the surveys of the Indo-European Telegraph Company in the south, have established its general features. The surface is generally mountainous, more especially toward the north, where branches of the great Suliman Range, running north and south, rise to a height of 12,000 feet. The ranges in the south generally run east and west, parallel with the coast, and the longitudinal valleys between form the principal thoroughfares, there being no regular routes in the country except those through the Bolan and Mula passes to Quetta and Kelát. Even the bottoms of some of the valleys have an elevation of 5700 feet; and the capital, Kelát, situated on the side of one of them, is 6783 feet above the level of the sea. Large deserts, rendered impassable in summer by sand storms and swept in winter by benumbing piercing winds, occupy hundreds of square miles of the country; and the rivers, unless after heavy rains, when those in the north-east frequently inundate great tracts of country, are inconsiderable, few of the streams in the south appearing to be perennial at all. The west is largely a land of drought, with stretches of sand varied by bare hills and treeless valleys. The temperature is one of striking and sudden extremes, 125° F. in the shade having been registered on the coast even in March, although at Kelát, in February, water has been observed to freeze as it was poured on the ground. The pastures, as may be supposed, are poor, so that there are few cattle; sheep, however, as well as mountain goats and antelopes, are numerous. The camel is the ordinary beast of burden; but in the north-west, toward Kerman, serviceable horses, with a marked strain of Arab blood, are bred. The wild animals include the tigar, leopard, wolf, hyena, ape, wild ass, etc., and fish in great quantities are caught off the coast. Wherever there is a sufficiency of water the soil is productive, the lowlands yielding rice, sugar, cotton, indigo, and tobacco; and the higher ground, wheat, barley, madder, maize, and pulse. The mountains are bare at the top and their slopes are scantily wooded as a rule; but in the valleys the almond, olive, and peach grow wild, and even the deserts furnish a useful brushwood. The gardens produce excellent fruits of all sorts, and in the sandy coast district of Mekran the date is carefully cultivated. The minerals are gold, silver, copper, lead, antimony, iron, tin, sulphur, alum, and sal ammoniac, and in 1887 valuable petroleum wells were discovered in the north; the manufactures are chiefly confined to carpets, tent covers of goat's and camel's hair, and rude firearms. The only town is the capital Kelát (q.v.), with (including suburbs) about 14,000 inhabitants, an old citadel, and a number of badly built and very dirty houses. There are no seaports, the fishing villages in the south being mere collections of wretched hovels; but along the surf-beaten sandy cliffs of the coast some sheltered roadsteads are found. The best of these are Sonmiani Bay, Hormara, and Gwadar, the last having a fort and a telegraph station. There is an insignificant inland trade, chiefly monopolized by Hindus, the towns having their commercial exit at Kurrachee, in Sind.

The inhabitants belong to the distinct races of Brahui and

Beluchis. The former are the dominant as well as the aboriginal race, and are hospitable and generous; the latter, a hungry, needy, greedy people, are largely nomadic, and form the bulk of the rural population. Opinions are widely divided as to the origin of the Brahui, many assuming their kinship with the Dravidians of southern India, although apparently on insufficient grounds. Their language presents no marked affinities, but appears to contain many ancient Hindu words, and echoes the accent of the Punjab dialect. In appearance they are short, sturdy, and strongly built, with round, flat faces, and brown hair. Their dress is a coarse calico tunic, with trousers fastened at the ankles, and a skull-cap with sash of the same color. The Beluchis are of Iranian descent, with a mingling of Tartar blood, and their language closely resembles the modern Persian; they are both numerically smaller and a more recent element than the Brahui. They are tall, with longer and more prominent features, and are brave, but restless and prone to predatory warfare, in which they frequently show themselves senselessly cruel. Their dress is distinguished from that of the ruling race by a turban and wider trousers not confined at the ankles. The women's attire is very much the same as the men's. Both races are inured to extremes of heat and cold, and are capable of considerable exertion; but the normal life of the Beluchis, at least, is one of laziness and indulgence, broken only by hunting, racing, and athletic contests, although Mr. Floyer testifies that he found the Mekrani shrewd, merry fellows, willing to work, and priding themselves on their politeness and integrity. A Beluchi warrior carries a formidable armory of weapons, comprising either a flint-lock musket or a spear, with sword, dagger, and shield. Both races are Mohammedans of the Sunni sect, but the teaching of the Koran is confused with numberless superstitious beliefs, and polygamy is said to be universal. Besides these two races, there are colonies of Persian descent called Dehwars ("villagers"), who form a vassal class, and the Lari, a sort of gypsies of possibly Indian origin, who are scattered in single families all over the country. B. is, in a somewhat indefinite manner, under the authority of the khan of Kelát, who, with a revenue of about £30,000, maintains an army of 3000 men. This petty sovereign having acted treacherously toward the British during the Afghan campaign of 1839, his royal city was taken by storm. In 1841 it was again captured, for temporary occupation, by the British. In 1877 England obtained by treaty with the khan the right of permanently occupying Quetta (which was annexed, with his consent, in 1887) and of having a political agent at Kelát; and the khan practically became a feudatory of the Indian empire, and placed his territory at the disposal of the British government for all military and strategical purposes, gaining by its moral support a prestige that has made his authority more respected by the semi-independent chiefs of the pastoral tribes who inhabit the seven provinces into which, following its physical features, the country is divided. See Bellew's From the Indus to the Tigris (Lond., 1874), and the works on B. by Hughes (1877), Macgregor (1882), and **Floyer** (1882).

BRITISH BELUCHISTAN is a chief commissionership of British India, so constituted in 1887, out of the districts of Pishin, Thal Chotiali, and Sibi, in south-eastern Afghanistan, which had been administered by the British since the war of 1878-81.

BENGAL, *bĕn-gawl'* (old Gangálá; the Banga of Sanskrit topography): a name given to part of British India, but variously signifying (1) the old historical presidency which, in pre-mutiny times, comprised the greater portion of Northern India; (2) the modern military division, corresponding in extent to the old presidency; and (3) the modern province, sometimes also called Lower Bengal, comprising Bengal Proper, Behar, Orissa, and Chhota Nagpur. The word 'presidency' (a relic of the East India Company's time, when the three settlements were each administered by a president and council) is still loosely applied to the province as well as to Calcutta itself; but it is actually retained in the Army List, the Bengal Presidency command being held by the 'Commander-in-chief in India,' to whom the Commanders-in-chief of Bombay and Madras are subordinate. Lower Bengal is so called in contradistinction to the 'Upper Provinces' of the obsolete presidency, which are now placed under separate administrations.

The modern province, ruled by a lieutenant-governor, is the largest and most populous of the twelve divisions of British India. It is nearly as large as Spain, and half as large again as Great Britain and Ireland; while it has a population nearly double that of the United Kingdom. The census of 1881 gives a population of 69,536,861, the density over the whole inhabited area being 371 to the square mile, as compared with 303 in the United Kingdom, 221 in Germany, and 187 in France. The following are the census figures:

	Square Miles.	Inhabitants.
Bengal Proper	70,430	35,607,628
Behar	44,139	23,127,104
Chhota Nagpur	26,966	4,225,989
Orissa	9,053	3,730,735
	150,588	66,691,456
Feudatory States	36,634	2,845,405
Total	187,222	69,536,861

Roughly speaking, B. comprises the low-lying deltas of the Ganges and Brahmaputra, and the alluvial plains stretching along their lower courses. In the n. it is hemmed in by the Himalayan ramparts; in the s.w. angle the hilly region of Chhota Nagpur forms a continuation of the central Indian plateau; while on the s.e. a coast-line of 550 miles extends round the top of the Bay of Bengal from Puri, in the south of Orissa, to the point at which Chittagong is terminated by the Lower Burmah frontier. Although for the most part level, B. is diversified in various parts by peaks and spurs thrown out from the great mountain systems. Lying between 19° 18' and 28° 15' n. lat. and 82° and 97° e. long., it is bounded landward by the native states of Nepaul, Sikkim, and Bhutan, on the n.; by Assam and Upper Burmah on the e.; by the North-west Provinces and the Central Indian Agency on the w.; and on the s. by Madras. The province is portioned out into nine large administrative tracts called divisions, each under a commissioner, and of these, five (Calcutta (or Presidency), Burdwan, Rajshahi, Dacca, and Chittagong) form what is known as Bengal Proper, a name which is now purely geographical. The other divisions are Patna and Bhagalpur (forming the old province of Behar), Orissa, and Chhota Nagpur. These commissionerships are again divided into 45 districts, each with a magistrate, and among these may be named the densely peopled metropolitan districts of Hugli (Hooghly), Howrah and the 24 Parganas, and the rich trading districts of Dacca, Faridpur, and Patna. The average district in B. has an area of 3327 sq. m., more than half the size of Yorkshire. The distinctive features of B. are its immense network of rivers, the magnificent range of the Himalayas, the luxuriant but fever-haunted Terai at the base of the great mountain chain, and the trackless forests and jungles of the Sundarbans (Sunderbunds) on the sea-face of the delta, the almost undisputed home of the tiger and rhinoceros. Besides the main streams of the Ganges and Brahmaputra, the chief rivers are the Gogra, Son, Gandak, Kusi, Tista, Hugli (formed by the Bhagirathi and Jalangi), the Damodar, and Rupnarayan; and, in the extreme south, the Mahanadi or 'Great River' of Orissa. All the rivers are subject to floods, bring down an immense quantity of soil, and thousands of square miles in the delta thus receive a splendid top-dressing every year. The country is so enriched by this system of recuperation as 'to defy the utmost power of overcropping to exhaust its fertility.' As compared with Northern India, B. is remarkable for the absence of large cities. Calcutta, the capital, is one of the largest cities in the world, having a population of 800,000. But the other towns are small, the next largest being Patna, with 180,000 inhabitants. Altogether there are 23 towns with upward of 20,000 inhabitants, including Dacca, Gaya, Bhagalpur, Darbhanga, Monghyr, Arrah, Cuttack, Murshidabad, Dinapur, Burdwan, Krishnagar, Naihati, and Chittagong. On the Hugli, within twenty miles of Calcutta, stands the small French settlement of Chandernagore, the Portuguese Hugli, the Dutch Chinsura, and the Danish Serampur. All these are now places of diminished importance, but they give to the river Hugli a peculiar historical significance; all but Chandernagore have been ceded to England, the Danish town as late as 1845.

The climate of the plains is similar to that of the Indian seaboard everywhere—hot and humid. But inland in Behar it is much drier, with hot winds in summer; while in ascending the hills, every variety of climate is met with, till the perpetual snow-line is reached. The ordinary range of temperature in the plains is from about 52° F. in the cold season, to 103° in the shade in summer. In good European houses the temperature in the hottest months can be kept down to 95°. The hill-station of Darjiling, at an elevation of 6685 feet, has a mean temperature of 54°. In the eastern districts the average yearly rainfall is over 100 inches, while on the hillsides this is greatly exceeded. Calcutta has only 66, Darjiling 126, and Chera Punji (in Assam) has 527, the largest fall recorded in the world. B. is exposed to the heavy sweep of the Monsoon (q.v.), while cyclonic waves and river inundations are frequent, carrying at times terrible havoc far into the low-lying country. In a cyclonic wave on the Orissa coast in 1885, September there perished 5000 souls. At the same time, earthquakes are not infrequent, a severe shock which traversed the province in 1885, July having caused wide-spread destruction of property. The people are mostly employed in agriculture, and among the chief products are indigo, jute, the opium poppy, oil-seeds, many varieties of rice, cinchona, tea, turmeric, pepper, the silk mulberry, cotton, sugar, and innumerable grains, spices, and drugs. Opium is a government monopoly; and cinchona is chiefly grown at the government plantation at Darjiling, although in 1887 there were four private plantations, yielding in that year 30,000 lb. of dry bark. The enormous wealth of B. lies in its vast production of articles of commerce. The foreign export trade, chiefly to Great Britain, amounts in value to upward of 45 millions sterling, and the import trade to 27 millions. From its position in relation to the interior, a vast traffic passes through B., much of the wheat of the north-west and the jute and tea of Assam finding an outlet at Calcutta. Thus, exclusive of opium and railway material, Calcutta receives yearly from the interior commercial products to the value of 40 millions sterling, which are mostly re-exported. It is illustrative of the state of communications that, of this total 11 millions sterling arrive by country boat, 3½ millions by river steamer, 3¾ millions by road, and all the rest by railway. In 1887 the value of the exports were in the following proportion: opium, 17¾ per cent.; jute, 15; grain and pulses, 11; tea, 13½; oil-seeds, 12¼; indigo, 7½; hides and skins, 7¼; raw cotton, 4½; raw and made silk, 2. Other important exports are lac, saltpetre, and castor oil. The value of the jute exports varies from 5 millions sterling to 6 millions in a 'bumper' year. In 1887 Calcutta alone exported [illegible] gunny-bags. Great interest attaches to the cultivation of tea, which promises to take a front rank among Indian industries. There were in 1888 [illegible] tea gardens in Darjiling district and the Terai, including Jalpaiguri, and the Assam produce also passes through the province. In 1886 the total exports amounted to [illegible] lb.; in 1887 to [illegible] lb.; and in 1888, from May 1 to Nov. 30, to [illegible] lb. of tea, but [illegible] lb. went to Great Britain, [illegible] to Australia, and the rest to America.

B. has [illegible] mineral wealth. It [illegible] in coal, iron, and copper [illegible]. In 1888 there were in all 94 collieries, [illegible] power, and the total output was 951,001 tons. The Raniganj coal field alone employed powerful steam engines. The jute and cotton mills around Calcutta are even a more striking indication of industry, there being 47 of these, employing over 40,000 hands. In 1888 B. had 1950 miles of railway, the various lines being the East Indian, Patna-Gaya, Tarakeswar, e. B., B. central, Dacca, n. B., Kaunia-Dharla, Tirhut, B. and north-western, Deogarh, Nalhati, and Darjiling Himalayan. The last-named is one of the most wonderful mountain railways in the world. There are 5110 miles of telegraph line in B., conveying, in 1887, 64,872 messages.

Standing far in advance of the rest of India in education, the enlightened classes in B. are largely employed in government service. The province had in 1887 five colleges affiliated to the university of Calcutta; but there were in all 29 'institutions' catalogued as giving university education; 280 high schools, 736 middle English schools, 1156 middle vernacular schools, 3149 upper primary schools, and 45,338 lower primary schools. With engineering, normal, industrial, and other schools, there were in all 53,121 educational institutions, with 1,316,594 pupils. In 1887, at Calcutta University, of 1350 candidates for the first arts examination 716 passed; of 685 for the B.A. degree, 269; and of 83 for the M.A., 63. B. has also 4221 private native schools, with 15,508 pupils.

The peaceful character of the people may be judged from the extraordinary fact that a total garrison of little more than 7000 troops is found adequate to the control and safe keeping of a population of 70 millions. The total number of Europeans (including Eurasians) in 1881 was 39,473, of whom 25,566 were in Calcutta and its neighborhood. The British-born Europeans were 10,583 in all. In B. there were also 892 Armenians, 569 Chinese (shoemakers and carpenters in Calcutta), 156 Parsis, and 1059 Jews.

Within the province there is a great variety of race, language, religion, and degrees of civilization. A large proportion of the people are descended from the Aryan stock; but no sharp line can be drawn between those called Hindus and those reckoned aborigines, or non-Aryan, as many low-caste Hindus are wholly aboriginal in blood. There is within the lieutenant-governorship every degree of civilization from that of the English-educated, skeptical Hindu gentleman, to the primitive hillmen. Although essentially a Hindu province, B. has 22 million Moslem inhabitants, mainly belonging to the upper classes, while 2½ millions are semi-savage tribesmen, and 128,000 are returned as Christian converts. Bengalis speaking Bengali (q.v.) number 36½ millions; Hindustani speakers, 25 millions. In B. Proper the Santals are the most notable aboriginal stock; in the feudatory states are the Kolarian or Dravidian Gonds, Kols, and Bhuiyas, as well as Indo-Chinese tribes. Of the whole population, the census returns 46,250,000 as 'unemployed,' but this number includes 30,466,000 women, besides male children. Two millions of women work as agricultural laborers and nearly as many in manufactures. Of men 15,532,500 are landowners or agriculturists; over a million are commercial; 2½ millions industrial; 624,500 are professional, and 15,820,000 unemployed (mainly old men and children).

The history of B. is merged in that of India. The Mohammedan conquest dates from 1200. The East India Company made its earliest settlements, purely commercial in character, in the first half of the 17th century. The old settlement was the keystone of the British empire in India, and in the opinion of General Chesney (Indian Polity) it is even yet the one part of India which would be worth retaining were the rest to go. Main facts in the strictly provincial history are the Permanent Settlement of the Land Revenue enacted by Lord Cornwallis in 1793, by which the rights of proprietors were defined and secured in perpetuity; and the Tenancy Act of 1885, a supplement to the older measure, intended to protect the rights of the cultivators. See INDIA.

BHUTAN, *bô-tân':* an independent state in the e. Himalayas, between 26° 45′ and 28° lat. n., and 89° and 92° long. e., bounded on the n. by Tibet, s. and e. by Assam, and on the w. by Sikkim. It is divided into e. and w. B.; and before the British annexation in 1841-65 of the 18 dwars or passes which lead from the plains to the lofty terraces of B., the area was estimated at 20,000 sq. m.; since, it has been estimated at 16,800 sq. m. The extreme length of B. from e. to w. is 160 m., extreme breadth 90 m. With summits exceeding 21,000 ft., the whole surface may be described as mountainous, abounding in sublime and romantic scenery, with a gradual slope from n. to s. Generally speaking, the middle ranges are the most productive. While the s. presents but a scanty vegetation, and the n. rises far above the limit of perpetual snow, the central regions, at an elevation of 8,000 or 10,000 ft. above the sea, are covered with the finest forests of oak and pine, with beech, ash, birch, and maple. Among wild animals, elephants are numerous, and leopards, deer, wild hogs, bears, and the rhinoceros are also found. The Manás, a tributary of the Brahmaputra, is the most considerable river. Turnips grow well, and nearly all sorts of grain—wheat, barley, rice, maize, and buckwheat—are here and there cultivated on terraces cut out of the sides of the hills. The foreign trade, which consisted in the exchange of commodities in return for native cloths, rock salt, rhubarb, Tibet goods, mules, and the famous Tangastan horses or ponies, has declined. The nominal religion is Buddhism, but among the common people this goes little further than the recital of a few sacred sentences, and the propitiation of evil spirits. The government, almost purely ecclesiastical, is in the hands of a rapacious oligarchy. The Dharm Rajah, the nominal spiritual head, is treated rather as a god than as a sovereign; while the Deb Rajah, the actual secular head, is elected every three years by the chiefs from among themselves. They are controlled by the Lenchen or council of ministers. Polygamy and polyandry are common. The lower orders are dirty in their persons and habits; their food consists mostly of pork, turnips, rice, barley-meal, and brick tea. They are neat joiners, and their houses of three and four stories have the appearance of Swiss chalets, but are without chimneys. The winter capital is Punakha, on the Bugni river, 96 m. n.e. of Darjeeling. The summer capital is Tasichozong (Tassisudon), on the Gudada river, a centre of Lamaism. The original inhabitants, believed to be from Kuch Behar, were called Tephu; they were subdued by a band of Tibetan soldiers 200 years ago, who settled in B. The Bhutias speak a dialect of Tibetan. In 1772 the rajah of Kuch Behar received assistance from the British government against their invasions. Later raids led to the treaty of 1865, when the 18 dwars or passes of Bengal and Assam were ceded to the British government, in return for a yearly subvention of $25,000. The hold over the turbulent hill men thus given is greatly strengthened by the British occupation of the two strong positions of Buxa and Dewangiri, close to their frontier.

The chief towns of B. are Punakha, the capital, and a strong natural fortress, Tashichiren, Jong, Paro, Angdupherang, Tongsa, Jaisa, and Biaka. In 1889-90 B. exported to British India $[illegible] worth of produce, chiefly wool, musk, caoutchouc, and ponies, and imported thence $[illegible] worth of cotton goods, tobacco, rice, and betel nuts. The population of the state, formerly estimated at from 20,000, is now much larger.

BOHEMIA, *bo-hē'-me-a* (Ger. *Böhmen*) formerly one of the kingdoms of Europe, now forms the most northern province of the Austro-Hungarian monarchy, touching Saxony and Prussian Silesia, Moravia, Upper and Lower Austria, and Bavaria. It has an area of 19,980 sq. m., or about two thirds that of Scotland; pop. (1869) 5,140,544; (1880) 5,560,819; (1885) 5,697,883. It contains nearly 400 cities, of which the most important are Prague, the capital of the kingdom, and third city of the empire, with 304,000 inhabitants in 1888; Pilsen (38,883); Reichenberg (28,090); Budweis (23,845); Leitmeritz (10,854); and Rumburg (10,142). The country is surrounded on all sides by lofty mountain ranges, the principal of which are the Riesengebirge (part of the Sudetic chain) on the n.e., dividing B. from Silesia, and attaining, in the peak of the Schneekoppe, a height of 5330 feet; on the n.w., the Erzgebirge, attaining a height of more than 4000 feet; on the s.w., the Böhmerwald, reaching 4783 feet. Offsets from these traverse the interior of the country, which has an undulating surface, sloping generally to the north. The country belongs to the upper basin of the Elbe, which rises in the Riesengebirge range; and it is well watered by the affluents of that river. The chief of these are the Moldau, Eger, Iser, Aupa, Mettau, and Biela.

The climate of B. is generally healthy, but varies greatly in different districts. In the valleys it is mild and pleasant, but raw and cold in the mountainous regions, where the higher peaks are covered with snow during a great portion of the year.

The mountain chains which rise on all sides of B. consist largely of primitive rocks, principally gneiss, mica-slate, and granite. Basalt, clinkstone, greenstone, and red sandstone are also common, and with the last, diluvial and alluvial deposits are met with, often to a considerable elevation. The extensive Silurian beds near Prague are rich in fossils. The plains belong chiefly to the Middle, or Miocene period of the Tertiary formation, with sand, gravel, and marl. A remnant of volcanic action, of which traces are common, still continues in the eruptions of carbonic acid gas which have established so many mineral springs of deserved repute, at Carlsbad, Eger, Marienbad, Teplitz, and throughout the country.

The mineral wealth is varied and extensive, consisting of silver, tin, copper, lead, iron, cobalt, bismuth, antimony, alum, sulphur, graphite, and porcelain clay, with several precious and ornamental stones. More coal is produced than in all the rest of the Austrian empire. The swampy plains yield an enormous amount of peat, and a large quantity of asphaltum is also obtained. On the other hand, no salt at all is found.

The soil is generally fertile. More than one-half of the area consists of arable land; nearly one-eighth is laid out in meadows and gardens, pastures form about a twelfth; and forests cover nearly a third. The wheat, rye, barley, and oats raised in B. amount to more than a sixth of the produce of the whole Austrian empire. Flax and hops are plentiful, and a great variety of fruit is exported in large quantities. The culture of the vine is confined to the vicinity of the Moldau and the Elbe. Horned cattle, sheep, goats, and swine are reared extensively in some districts; bees and geese form important items in the resources of the country.

In manufactures B. holds a very high place among continental countries. It is a great centre of dyeing and calico printing. The linen manufacture is more extensive than that of all the other Austrian provinces together, and the flax spinning employs more than 25,000 spindles. The chief seat of the woolen manufacture is Reichenberg and its neighborhood. Other important branches of industry are the manufacture of paper, ribbons, lace, chemicals, porcelain ware, and the Turkish fez. The glass works of B. are celebrated, and very numerous and extensive, affording employment to some 25,000 persons. Beet root sugar is manufactured extensively, and there are hundreds of breweries and brandy distilleries throughout the country, mostly on a small scale, although Bohemian beer is sold throughout Europe. The manufacture of iron is considerable. Its position secures B. a large transit trade. Steamboats ply on the Elbe and Moldau, and a canal crossing into upper Austria conveys the timber of the Böhmerwald from the latter into the Danube. There are good roads and an excellent system of railways centring in the capital, Prague. In 1885 there were 2925 miles of railway, besides the branch lines for mining purposes.

Population, Religion, and Education.—The Czechs, a Slavonic race, form the bulk of the people. They dwell chiefly in the centre and east of the country, and in 1880 numbered 3,470,000. The German population, amounting in the same year to 2,054,000, reside mainly on the outskirts, especially in the n.e., and in the cities; their influence on industry, trade, and commerce is great in proportion to their numbers. The distinction between Czech and German is very sharply drawn. There are about 100,000 Jews. The vast majority of the population (5,340,000) belong to the Roman Catholic Church, but other religions are tolerated; the Protestants only amount to 130,000, the majority belonging to the Calvinistic confession, and cherishing relations with the churches of Scotland. The Roman Catholics are under the supervision of the Archbishop of Prague and the three bishops of Leitmeritz, Königgrätz, and Budweis. The monasteries and convents number between 120 and 130. Education is much more widely diffused than in any of the other provinces of Austria. At the head of the educational establishments is the university of Prague, where since 1882 all subjects are taught in the German and the Czech languages. The number of students in 1885 was 3278, 1450 of whom attended the German classes. There are over 50 higher schools, besides 2200 German and 2500 Czech public schools, and numerous seminaries and technical institutes. B. sends 92 (about a fourth of the 353) members to the Lower House of the Austrian Reichsrath, or parliament of the western part of the empire.

History.—The country derives its name from the Celtic Boii, who were expelled by the Germanic Marcomanni about the beginning of the Christian era. The victors themselves soon gave place to others, and as early as the 5th century A.D. we find B. peopled by the Czechs, a Slavic race. In the latter part of the 9th century, Swatopluk, the king of Moravia, subjugated B., and introduced Christianity. After his death, the dukes of Prague, who in 1086 had the title of king conferred on them by the Emperor Henry IV., ruled the country as a state in the German empire until 1306, when the last of the dynasty was assassinated.

From 1310 to 1437 the country was ruled by kings of the house of Luxemburg. In the time of Wenzel IV. (Wenceslas), a reformation of religion took place under John Huss (q.v.) and Jerome of Prague (q.v.). After the death of Wenzel IV., the imprudent measures adopted by the Emperor Sigismund excited a war of sixteen years' duration, which ended in making B. an elective kingdom, and, in 1458, the shrewd and able Protestant noble, George of Podiebrad, ascended the throne. His successor, the Polish prince Ladislaus (1471-1516), was elected (1490) to the throne of Hungary, and removed the royal residence to Ofen, where also his son and successor, Louis (1516-26), resided. After his death in battle against the Turks at Mohacz, B. and Hungary passed into the hands of Ferdinand I. of Austria, who had married Louis's sister. From that time the history of B. merges in the history of Austria (q.v.). The Reformation was tolerated under Maximilian, and religious liberty formally granted by Rudolf II. (1609). The withdrawal of this freedom a few years later under Matthias, and especially Ferdinand II., led to the troubles that broke out in 1618 and the election of Frederick V. of the Palatinate (q.v.) to be Bohemian king (see THIRTY YEARS' WAR). The battle at the Weissenberg (1620) restored the Hapsburgs and was followed by the merciless extirpation of Protestantism, the suppression of all national privileges, and the ruin of the country. The reforms of Josef II. stirred up in B. a revival of Czech feeling, and from 1848 (when a rising was swiftly suppressed) onward there has been a continuous struggle between Germans and Czechs for the supremacy. A Bohemian diet created under the new constitution of 1861 made the Czech language a compulsory subject even in German secondary schools. In 1867 the Czechs refused to send their complement of members to the Austrian Reichsrath, and showed their growing sympathies with Panslavism (q.v.). In 1879 they resumed attendance at the Reichsrath, and as a section of the Right secured further concessions in favor of the Czech tongue. The aim, alike of the feudal and clerical old Czechs, and of the liberal new Czechs, is the restoration of the full crown rights of B., and the predominance of Czech ideas, Czech culture, and the Czech language throughout the land. See the works cited at AUSTRIA; also the works of Pelzel (1817), Palacký (1836-67), Jordan (1845), Schlesinger (1870), and Tomek (1882).

Language.—The Czech language spoken in B., Moravia, and, with variations, among the Slovaks in the north of Hungary, is one of the most cultivated dialects of the Slavonic. Its complicated and difficult forms remind one of the Latin and Greek accidence. Its peculiarities are the sibilated *r*, which is harsher than the *rz* of the Poles, and the distinct possession of both quantity and accent, so that the Latin and Greek metres can be exactly reproduced in it, though such imitations are purely artificial, the native poetry being accentual. Its syntax resembles Latin. It has one guttural, *ch*. It has a passive participle, but no formal passive voice, and makes a very free use of reflexive verbs.

Literature.—Bohemian literature divides itself naturally into three periods—(1) From the earliest time to the burning of Huss in 1415; (2) from 1415 to Josef II.'s Edict of Toleration in 1781; and (3) thence to the present time.

Period I. The Greek Church is represented by a Glagolitic (q.v.) fragment (*circa* 900), the Latin by a fragment of St. John's Gospel, with an interlinear Bohemian translation of somewhat later date. The greater part of the Bible was translated by the end of the 13th century, and in the 14th the whole was complete. A manuscript containing an unrhymed poem, the Judgment of Libussa, was found in 1817, and another was found by V. Hanka, containing epic and lyric poems, all ascribed to the end of the 13th century. These manuscripts have both been attacked as forgeries, but it is difficult to conceive a forger in 1817 possessed of sufficient knowledge for the purpose, and microscopic examination has shown that Hanka both misread and misunderstood his manuscript in various places. The Latin Alexandreis was freely translated into Bohemian rhyme between 1240 and 1250, and legends of Christ and of several saints were current toward the close of the century.

The first half of the 14th century, the great event of which was the foundation of the university of Prague by Charles IV. in 1348, presents a rhymed chronicle, called that of Dalimil, the earliest complete manuscript of which (*circa* 1350) lay for one hundred and forty years unrecognized in the library of Trinity College, Cambridge, and was unearthed only in 1876. In this century didactic and satirical poetry were well represented. The rhymed legend of St. Catherine (discovered at Stockholm in 1850) is of considerable beauty, and that of St. Prokop is amusing. The travels of Marco Polo were translated early, and those of Sir John Mandeville late in the same century. A cycle of chivalry was also current. A complete Life of Christ was written. Romances of Alexander the Great and of Troy were translated. Tkadleczek's dialogues between The Complainer and Misfortune are a model of terse and elegant Bohemian. Thomas of Stitný (1333-1400) wrote, in order that higher matters might become generally accessible in the Bohemian as well as in the Latin tongue, first for the instruction of his children, and then for a wider circle, considering that 'the soul of a Bohemian was as precious to God as that of a Latinist'. Theologian, homilist, and philosopher, his equal cannot be found in English literature before the time of Elizabeth. As a writer it is impossible to separate John Huss (Jan Hus) from Stitný. Huss's activity lay between 1402 and 1415, first as a preacher, and then as a writer. His Latin works, except those written without books in prison, are little more than centos, and adaptations of Wyclif; but his Bohemian writings are very different, though he apparently still used Wyclif as an encyclopedia. He wrote a long work on the Creed, the Lord's Prayer, and the Ten Commandments, sermons on the Gospels for every Sunday in the year, and many smaller treatises, the most beautiful of which is the Daughter, a manual of advice to the human soul. His Bohemian style is inferior to that of Stitný.

Period II., from 1415 to 1781. The Hussite wars were not favorable to any but controversial literature. After the suppression of the military Taborites (1452) the teaching of Peter Chelczický, a great religious writer and thinker (1430-56), was adopted by the peaceful Bohemian brotherhood. But for many years the brethren disregarded human learning, until, under the influence of Jan Blahoslav, the translator of the New Testament, who first noticed the capacity of Bohemian for representing the classical metres, they proceeded in earnest to their new translation of the Bible, which was printed in 6 vols. at Kralitz, in Moravia (1579-93). In poetry the Hussite times produced a few songs, satirical and didactic poems and ballads, among which are a spirited ballad on the battle of Aussig, and the war song of Ziska's soldiers on the march. Jan Ziska's military arrangements, which still exist in writing, are very remarkable. The Diary of an Embassy from King George to King Louis XI. of France (1464) is of historical rather than literary interest. During the Polish dynasty (1476-1524) John Hasensteinský wrote Travels in Palestine (1492) and Advice to his Son in excellent Bohemian, and Nicholas Konacz a grand book on the Plaint of Justice, the Queen and Lady of all the Virtues. Under Ferdinand I. and Maximilian II. (1526-75) the study of the classics was much advanced by the Jesuit academy established at Prague in 1555. Many of the Jesuits wrote in Bohemian with great success. Sixtus of Ottersdorf's Memoirs of the Years 1546-47, so fatal to Bohemian freedom, are very valuable. But the literary glory of this era is the Kronyka Czeská of V. Hajek of Liboczan (1541), which in style rivals Herodotus, though its historical statements are so untrustworthy that Palacký terms him 'the corrupter of Bohemian history.'

The time of the emperors Rudolf II. and Matthias (1576-1619), or rather of the former, has been termed the 'golden age' of Bohemian literature, although little rises much above mediocrity. But educational arrangements were excellent, and probably superior to those of any other country in Europe. The centre of literature in Rudolf's time was the printer Adam of Veleslavin. Translations were more abundant than original works. Matyas Gryll (1592) wrote the only good original poem, On the Providence and Government of God, of this era. The travels of Harant of Polzic in Palestine, Egypt, and Sinai have been translated into German, and the adventures of Wratislaw of Mitrovitz, in Turkey, into German, English, and Russian. Of Jirzik Zaveta's Schola Aulica, Balbinus said that, 'if translated into Latin, it need fear no criticism.' The greatest literary man among the brethren was J. Amos Komenský (Comenius), the author of the World in Pictures and the Labyrinth of the World. From Ferdinand II. (1619) to Josef II. (1781) is a period of literary decline, succeeded by slumber. The Jesuits from the school of Ferdinand I. gradually died out, and their successors did not study Bohemian, but simply carried on an indiscriminate crusade (till 1760) against the native literature, one Jesuit boasting of having himself destroyed 60,000 volumes.

Period III., from Josef II. (1781) to the present time. We now come to the unexampled resuscitation of a dead and buried language and literature. The Abbé Josef Dobrowský, the father of Slavonic comparative philology, devoted his life to the grammatical, philological, and historical research, but wrote principally in Latin and German. In 1795 Fr. V. M. Kramerius established a Bohemian printing-press which, till his death in 1808, was the centre of Czech literary activity. In 1806 Jan Nejedly issued the first periodical, the Hlasatel (Herald), in the Bohemian language. Dobrowský unfortunately constructed a prosody intended to reproduce the classical metres by accent irrespective of quantity, which was very embarrassing to poetry till overthrown (1818) by Palacký and Szafarzik (Schafarik). Still, A. J. Puchmajer (1795-1814) is justly considered the reawakener of the Czech muse. The stores obtained by the researches of Dobrowský were edited in the Starobyla Skladanie, Ancient Collections (1817-24), by V. Hanka, who also first successfully imitated the popular songs and ballads of the peasantry (1815-16). But the greatest impulse to Bohemian poetry was given by the 13th century manuscripts above mentioned.

In 1818 Count Kaspar Sternberg and others succeeded in fully establishing and endowing the Bohemian Museum, which became the centre of research and progress. In 1819 appeared the first great poem of the revival, Polák's Sublimity of Nature. Next came J. Kollár, Fr. L. Czelakowský, and the Slovák Jan Holy. In 1821 J. S. Presl established the scientific magazine Krok, and ere long created a Bohemian terminology for chemistry and other sciences. In 1825 Jungmann published his History of Bohemian Literature. In 1827 the magazine (Czasopis) of the Bohemian Museum appeared under the editorship of Fr. Palacký in Bohemian and German. Contrary to expectation, the circulation of the German monthly dwindled to nothing, while that of the Bohemian quarterly rapidly increased. In 1831 the Matice Czeska, a by-committee of the museum, was instituted for the republication of old and the publication of new works of value in the Bohemian language. By its aid J. Jungmann's gigantic Bohemian dictionary, the work of thirty years, appeared in five large volumes (1835-39), and in 1837 Szafarzik's Slavonic Antiquities, the first Bohemian work that obtained a European reputation. In 1831 Fr. Palacký was elected historian to the Estates of B. After searching the principal archives of Germany and Italy, especially the Vatican Library, he brought out the first volume of his history in German in 1836, in Bohemian not till 1848, the year of the abolition of the Austrian censorship of the press. In 1849 J. A. Purkyne, a physiologist of European reputation, effected the establishment of the periodical Ziva for natural science. Other periodicals became numerous. Palacký's History (to 1526) was completed in Germany in 1867, in Bohemian not till 1876, the excisions and interpolations of the censorship being rectified. It is being continued by Gindeley. The translation of Shakespeare's dramatic works was completed (1854–72). K. J. Erben deserves especial notice as poet, archaeologist, translator, and editor of Huss's Bohemian works (3 vols., 1865–68), of Stitný, etc. V. V. Tomek, besides his history of the university of Prague (1849), is author of an exhaustive history of the city of Prague (vols. i.–vii., 1855–85). He was justly appointed the first rector of the re-established Bohemian University of Prague (1882).

BOKHARA, *bok-â'-râ*, is the name given to the countries of Independent Tartary under the rule of the khan (or emir) of B. The most important part of it formed the ancient Sogdiana. The extent of the khanate of B. has been constantly undergoing changes. Until recently it included the whole basin of the Zarafshan; but the Russians have now annexed Samarkand, and the lower basin of the river forms the essential part of the territory. The population of the present khanate has been estimated at from 1,000,000 to 2,500,000; its area is about 90,000 sq. m.

Only in the neighborhood of the rivers is cultivation possible. The rest of the soil is composed of a stiff arid clay, interspersed with low sand hills. B. has only three rivers of any importance—the Amu Daria, or Oxus, the Zarafshan, and the Karshi. Entering B. at Koshtupa, the Amu flows through the country in a north-west direction to the Sea of Aral. Its banks in some parts are very fertile, especially in the neighborhood of Balkh. The Zarafshan, which rises among the glaciers of the Alai range, issues out into the plain near Samarkand, and fertilizes the district thence to the city of B. Before reaching the city, it sends out a northern branch, which, after a fertilizing course of several miles, is absorbed in the sand. The southern branch, which passes B. to the north, formerly extended to the Lake of Kara Kul, a salt water sheet about twenty five miles in circumference, which is connected with the Amu by irrigating canals; but of recent years its volume has been seriously lessened for purposes of irrigation, and now it, too, is lost among the ever encroaching sands. Its upper banks, however, have been benefited by the process, and its valley is the richest as well as the most populous in B. The Karshi has a course of about sixty miles before it is also lost in the desert. Outlying provinces of B., separated by mountains, are Darwaz, Karategin, Hissar, and Kulab.

The climate is healthy, but subject to great extremes of heat and cold. The rains usually commence and end with February. Violent sand storms are frequent, and occasion ophthalmia among the inhabitants. Thunder storms and earthquakes are not unfrequent, especially in the spring, and there are sometimes violent tornadoes, blowing from the north west. Minerals are scarce. The sands of the Oxus yield gold. Salt deposits are numerous. Alum and sulphur are found in the vicinity of Samarkand, and sal ammoniac in the mountainous districts. The other products include rice and cotton, wheat, barley, beet-root, vegetables, hemp—only used in the preparation of bhang—silk, fruits in immense abundance, and tobacco. The camel's thorn, a plant that grows luxuriantly in Samarkand and Karshi, exudes a saccharine gum, or manna, extensively used as sugar. Fruits and vegetables common to the temperate zone are extensively cultivated.

Sheep and goats form a great source of wealth. There is a peculiar breed of sheep, found only in the district of Karakul, which produces a jet black curly fleece much valued. The goats are about the common size and yield a shawl wool inferior only to that of Kashmir. There are but few wild animals, among them tigers of a diminutive species, wild hogs, deer, antelopes, wild asses, foxes, wolves, jackals, and otters. Game of all kinds is scarce. Camels are numerous and valuable; the horses are celebrated for their strength and endurance and the breed of asses is excellent. Myriads of silkworms are fed on the mulberry trees that clothe the banks of every stream. The industry includes the manufacture of silk stuffs, cotton thread, shagreen, jewelry, cutlery, and firearms. Its geographical position secures B. the transit trade between Russia and the south of Asia; and the Trans-caspian railway has probably increased the commercial prosperity of the country in proportion as it has lessened its prospect of maintaining its independence. B. exports to Russia, besides cotton, the principal item, dried fruits, rice, raw and dyed silks, indigo, silk sashes, turquoises, shawls and furs. It imports muslins, calicoes, chintzes, some silk stuffs, broadcloth, brocades, hides, iron, and other metals. The central points of commerce are Bokhara and Karshee. The population, like that of the other khanates of Turkestan, consists chiefly of the aboriginal Tajiks of Persian, and of the dominant Uzbegs and Turcomans of Turkish origin. Nomadic Arabs and Persian slaves are also numerous. The army numbers about 20,000 troops, badly armed, but since 1885 vigorously drilled by Russian officers, and armed with Berdan rifles.

B. has for ages been regarded the centre of Mussulman erudi-

BOKHARA.—2

tion. About one-fourth of the population is said to be able to read and write. Primary schools are not only in the cities, but even in the villages. The course extends over about seven years. Those wishing to continue their studies then enter the seminaries, where they pursue a course, chiefly theological, under one or two professors who have acquired the right to give lectures.

B. was conquered in the beginning of the 8th century by the Arabs, who were dispossessed of it in 1232 by Genghis Khan. It fell into the hands of Timur in 1403, and in 1505 was taken by the Uzbegs, its present masters. During the 18th century the khans were characterized by the worst abominations of eastern vice and fanaticism; and B. lost its political pre-eminence among the khanates of Turkestan. The canals, which alone gave fertility to the country, were neglected; large areas were again overspread by the desert; and the population diminished. With the accession of the Khan Nasrullah (1826), a barbarous and incapable tyrant, the country became an object of rivalry to England and Russia, who sent envoys to cultivate his friendship (see BURNES); but he and his successor, Mozaffar-ed-din, treated both with equal insolence and contempt. After the capture of Tashkend by the Russians in 1865 (see TURKESTAN), a religious war was preached against the Russians, and the khan was compelled to oppose them. He was defeated at the battle of Irdjar, 1866, May 20; and 1868, May, Samarkand (q.v.), one of the most important cities of B., was taken. The command of the upper course of the Zarafshan, which fertilizes the central part of the country, placed the khan entirely under the power of Russia. In 1868, July, a peace was concluded by which Samarkand was ceded to the czar, and stipulations were entered into favorable to Russian trade. The treaty caused great dissatisfaction to the fanatic Mussulmans of B. They rose in rebellion, placing at their head Abd-ul-Melik Töre, the son and heir of the khan. The Russians aided the khan at his request; and in October the rebels were defeated near Karshi. The rebel leader sought refuge in Afghanistan. Shere Ali, the Afghan ruler, gave him a warm welcome, and would have invaded B. had he not been restrained by Lord Mayo, the Indian viceroy, who told him that England could not encourage him in any attack on his neighbors. While Shere Ali was meditating this invasion, Abdurrahman, his nephew, who had married a daughter of the khan of B., endeavored to obtain Russian aid in invading Afghan Turkestan with a Bokharian army. But, in this case, Russia opposed the enterprise (see AFGHANISTAN). During the invasion of Khiva in 1873 the khan efficiently assisted the Russians, and was rewarded by a large addition to his territory from the Khivan possessions on the right bank of the Oxus, under the treaty entered into between Russia and Khiva in 1873, July. On the death of Mozaffar-ed-din in 1882 he was succeeded by Abd-ul-Ahad, his younger son, whose mental and physical weakness has rendered him anxious to secure the protection of Russia and her assistance in governing his country. Since his accession, a Russian political agent has been appointed, and a Russian bank established in B., and everything points to the early absorption of the country into Russian Turkestan, in which the annexation of Merv in 1884 has practically inclosed it. See Vambéry's History of Bokhara (1873), and Lansdell's Russian Central Asia (1885).

BOLIVIA, *bo-lĭv'ĭ-a:* a republican state on the west side of South America, formed in 1825, and deriving its name from Bolivar. Formerly called Upper Peru, it was till 1825 part of the viceroyalty of Buenos Ayres. It extends between 8° and 23° s. lat., and 57° 30′ and 73° w. long., and is inclosed by Peru, Brazil, Paraguay, the Argentine Republic, and Chili. A portion of the Argentine frontier has been for some time undetermined. Its coast provinces B. lost to Chili in consequence of the war between B. and Peru with Chili in 1879–83. The area of the republic (842,729 sq. m. in 1869) was estimated in 1888 at only 438,175 sq. m., which is still, however, almost four times that of the United Kingdom; meanwhile the population has risen from 1,987,352 in 1858 to 2,303,000, of whom rather more than half are native Indians, who are not admitted to citizenship.

Surface and Hydrography.—Prior to the treaty of 1884, B. contained the loftiest and most mountainous district of America; but as since then her western frontier has been bounded by the Andes, this claim would now be only partly true. The Peruvian frontier is, however, unchanged; and the lofty plateau of Oruro, with an average height of 13,000 feet, and about 150 miles broad, is inclosed between the Andes proper and the Cordillera Real, to the east. There are also intermediate ranges and isolated groups; and the volcanoes, confined to the western region, include Sahama, Illampu, and Illimani, all over 21,000 feet high. The great plateau falls into two parts, of which the northern is the more inhabited, the Lake of Titicaca and the many well-watered valleys around making the district not so unproductive as its great elevation would otherwise render it. This lake, with an area of more than 3,200 sq. m., and a depth of 120 fathoms, incloses several islands, the largest of which was the home of the founders of the empire of the Incas. The Rio Desaguadero, with a course of 160 miles, connects it with the salt lake and swamps of Aullagas, or Paria, scarcely one third the size of Titicaca; and somewhat to the west lies the Laguna de Coiposa, a basin covered, in the dry season, with a thick crust of salt. The southern and lower table-land is chiefly a desert, where the mountain streams either sink into the sand, or flood, in the rainy season, what are salt pampas throughout the rest of the year. The Cordillera Real system descends abruptly, on the n., to the plain of the Amazon; but its eastern edge is a series of terraces, sinking gently to the plains of eastern B., which in the n. belong to the Amazon basin, and in the s. to the pampas of the Plata. This eastern region is a cradle of both rivers, gathering for the latter the Pilcomayo, with its tributary streams, which flows through the Gran Chaco to feed the Paraguay, and for the former the Guapey, or Rio Grande, which afterward becomes the Mamoré, and unites with the Beni (q.v.) to form the Madeira. See AMERICA, ANDES.

Climate and Vegetation.—Although situated entirely within the tropics, B., from its varied elevation, possesses a wide range of climate and productions. The regions with an elevation of over 11,000 feet are called punas, while the puna brava is the region of snow and ice above 12,500 feet. This division includes the whole table-land of Oruro and the loftier mountain peaks. The climate is cold and dry, but generally healthy, in spite of the cutting winds, the extreme rarity of the atmosphere, and the occasional days of great heat, followed by bitterly cold nights. Vegetation is scanty, and cultivation mainly confined to potatoes, barley, and coarse grasses, which maintain the animals of this zone. Here, and in the higher parts of the next region, the dry and rainy seasons are distinguished, the latter extending from November to March. The *cabeceras de valles* are the heads of valleys descending to the lowlands, in the eastern terraces, between 9,500 and 11,000 feet; the deeper valleys, between 5,000 and 9,500 feet, are called *medio-yungas*. The former have a temperate climate, and wheat and maize are produced in large quantities; in the latter, tropical fruits begin to flourish. East of the inner Cordillera lie the *yungas* or plains under the 5,000 feet limit. This district, with its numerous streams, its luxuriant tropical vegetation, its rich forests of valuable trees in the n., and its immense open savannahs in the s., surpasses most countries of South America in fertility and resources. Coffee, rice, cacao, coca, pineapples, bananas, tobacco, cotton, and the valuable cinchona are cultivated; and among other important plants are the copal and caoutchouc trees. The rainfall here is uncertain. Intermittent fevers are confined to the northern plains, where the overflowing rivers and rank vegetation are added to a hot and moist atmosphere.

Animals. In the punas are found the guanaco, llama, alpaca, and vicuña, animals almost as independent of water as the camel and the chinchilla; in the e., jaguars, tapirs, and other wild animals common to Brazil. The first three are prized for their skins, and are also largely employed as beasts of burden; the vicuña yields a long, soft wool; and the chinchilla skins also form a valuable article of commerce. Large numbers of sheep are herded in the highlands, and of cattle in the plains.

Minerals. While agriculture and stock-raising have never received proper attention in B., the development of its mineral resources has always been the most important industry of the country; for its great yields of gold, silver, copper, and tin ores have for centuries given a large profit, in spite of the excessive cost of transport. The mines of Potosi, which have been worked since 1545, are estimated to have produced, up to the present, over $2,910,000,000 of silver. Since the war of independence (1809-25), the industry has been practically uninterrupted, and specially fostered by favorable fiscal regulations. The want of good roads or accessible seaports, and a lack of better fuel than llama dung or moss, have seriously impeded the work; but the approach of railways, and the discovery of coal in several provinces, promise to remove these checks. Consequently, a great revival in mining enterprise has been noticeable since 1883, many abandoned mines having been reopened. Potosi still produces about 2,800,000 ounces; Oruro yields as much; and the richest mine, Huanchaca, to the south-west of Potosi, more than twice that amount. Next to the United States B. is the most important silver producing country. The product of all the silver mines is estimated at $20,000,000 annually. Lead and quicksilver are frequently found along with the silver. Gold mining has been abandoned, except by the Indians, who carry it on in a primitive way; but the metal is still washed in grains from the rivers of the eastern slope and foot hills of the Cordillera Real. The rich copper mines have recently been less worked, chiefly owing to difficulties of transportation.

Commerce, Communication, etc. From the land-locked position of the republic, its foreign trade labors under heavy disadvantages, which the nature of its great rivers, rendered unnavigable by rapids, has increased. An uninterrupted route was reported to have been discovered in 1887, by the Acquiry, Purus, and Amazon; but as this would connect Brazil only with the extreme north of B., beyond the Madre de Dios, its practical value is doubtful. More is to be hoped for from the railways, which are now steadily approaching the country from the south. Prior to the Chilian war, its favorite marts were the Peruvian port of Arica and its own Cobija, in Atacama. But both Argentine and Brazil having granted gratuitous egress through their ports, a great part of Bolivia's productions have since been drained through these countries, chiefly the former. In order to restore the trade to the Pacific, a railway is being rapidly pushed forward from the now Chilian port of Antofagasta; in 1886 it reached the Rio Loa at Santa Barbara. In 1887 the Paraguayan government granted a concession for a line by the Pilcomayo to B. and Peru; in the same year concessions were granted by the Argentine Republic to two contractors, for parallel routes through the Gran Chaco, and another road approached Jujuy. A railway to connect Potosi with the Argentine frontier is also projected; meanwhile, the bulk of the trade of La Paz is still by rail to Aygachi (fifty miles), and by steamer across Lake Titicaca to Puno, in Peru, and thence by rail to Mollendo. There is a telegraph line from Lake Titicaca to Sucre, and one extending through Potosi and the capital, from the Pacific coast to the Argentine frontier. The number of messages carried in 1888 was 16,127; the number of letters carried by the post office was 1,325,096. Concessions granted in 1868, for opening up the Mamoré and Madeira to navigation, have produced no result, although the Brazilian government is reported to be willing to render the Madeira navigable for 100 miles from its junction with the Amazon, and to levy no transit dues. The La Paz-Aygachi is the only railway in B.; but in 1886 there were about 100 miles of telegraph lines, mostly connecting with the Argentine system. Recent customs returns there are none; but a careful estimate would give the annual value of exports at slightly over $10,000,000 and of imports at about $6,750,000. Two-thirds of the exports consist of silver. In 1885 there were shipped to various countries through Arica 755 tons of copper, 796 tons of copper ore, 515 tons of tin, and 588 tons of silver in bars and ore. In 1888 there was exported by way of Buenos Ayres silver amounting to 5,487,835 dollars in Argentine currency, and gold to the value of 1,291,226 Argentine dollars. The imports of textiles and other commodities through Buenos Ayres aggregated 518,588 dollars. The exports to Great Britain amounted in 1886 to $324,562, the imports from thence amounted to $256,990, being chiefly iron, cotton, woolen, and manufactured goods. A considerable and increasing trade is carried on also with Germany and France, but there is no direct commerce with the United States. Bolivian manufactures are very backward, firearms and brandy alone showing any recent advance; but the coca and cinchona plantations are attracting a great deal of attention and capital. In 1885 there were over 5,000,000 cinchona trees, yielding 280,000 lb. of bark; and the coca leaf is in large demand, both for home consumption and for export.

Population.—The population of B. is a mixture of various races, half caste Spaniards and Indians, with some descendants of negro slaves formerly brought from Africa. About a third of the people live in the towns, the remainder in hamlets or in the Campaña. All the Indians are divided into three classes: civilized, semi-civilized, and wild. To the first belong the Quichua and Aymará Indians, chiefly inhabiting the highlands of the west. The former are direct descendants of the Incas, whose language and manners they preserve, and form fifty per cent. of the pure native population; the Aymará are a kindred race, about half as numerous. They are devout Catholics, mild in character, apathetic, with more endurance than energy, and are mostly arrieros, or drivers of llama trains, or engaged in llama and sheep raising and rude agriculture; raising maize and potatoes, and distilling from maize a harsh and heady liquor called *chicha*, of which they are particularly fond and in which they freely indulge. The second division is filled by the Chiquito and Moxos Indians of the great northeastern llanos, who retain part of the civilization introduced by the Jesuits in the 17th century; while the several tribes of nomadic Indians inhabiting the eastern plains belong to the third. These last are quite wild, but although more or less maliciously disposed toward the Spanish race, their dislike seldom finds expression in overt acts; and in consequence, travel in B. is comparatively safe. The half bred population is about a third as numerous as the pure Indian; the cholos, a Spanish and Indian mixture, form the most important element, and to them B. largely owes her independence; to these must be added the mulattos, the joint offspring of Spaniards and negroes, and the zambos, half negro and half Indian, a muscular and intelligent, but cunning and treacherous race. The religion of the country is Roman Catholic, but others are tolerated; there are four dioceses, including an archbishopric of La Plata. Education is extremely backward. Of the four universities, three are for law students alone; and in 1884 only five per cent. of the children of school age attended the schools. Consequently, literature is at a low ebb in B., and its few newspapers have the least weight of any in South America.

Government, etc.—According to the constitution, the executive is vested in a president, with two vice presidents and a ministry divided into five departments; while the legislature consists of a congress of two chambers, the senate and house of representatives, both elected by universal suffrage. In practice, the law requiring the election of the president every four years has seldom been observed; and since the presidency of General Santa Cruz (from 1829, May, to 1839, Jan.), the history of B. is a record of military insurrections, the supreme power having been almost invariably seized by successful commanders. There have been no returns of the actual revenue and expenditure for several years; in the budget for 188[illegible] the receipts are calculated at $3,[illegible], the expenditure at $[illegible]. The public debt is set down at about $25,[illegible], including a 'forced war loan' to equip troops against Chili, and a foreign debt of £1,[illegible] contracted in England in 1872, to open up the Madeira route. The United States consul general, however, returned the total debt in 1884 at $1[illegible], of which the foreign debt amounted to $[illegible]; and a general uncertainty, in which the Bolivian government seems to share, apparently exists as to the precise amount. Some two-thirds of the annual revenue is

BOLIVIA.—4.

expended on the standing army, which consists of about 1,400 men, commanded by 8 generals and 1,013 other officers, and the National Guard, in which service is obligatory upon all citizens. B. is divided into fourteen provinces. The seat of the executive government, formerly La Paz, was transferred in 1869 to Oruro, and is now at Sucré. The chief towns are La Paz (56,849), Cochabamba (14,705), Chuquisaca or Sucré (12,000), and Potosi (11,000).

B., which had been a part of the viceroyalty of Peru, owed her independence mainly to the initiative of Buenos Ayres, who after liberating the interior provinces of Argentine, went to the assistance of upper Peru. In 1809 the Buenos Ayrean general, Balcarce successfully invaded upper Peru and twice defeated the armies of Spain.

Over-confidence and criminal carelessness, however, led to the defeat and in 1815 to the total rout of the patriots.

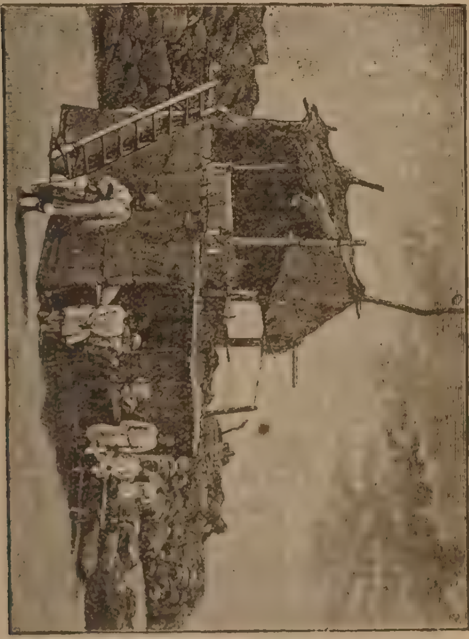
It was not till 1824 that General Sucré, after his great victory at Ayacucho in lower Peru, renewed the war in the present territory of B. His expedition was completely successful, and in the following year he assembled deputies from all the liberated provinces to decide whether they would join the Argentine confederation or become a separate and independent nation. They decided to declare the independence of B. The next year the newly-elected congresses adopted B.'s constitution and elected General Sucré *presidente vitalicio*, or president for life. The president, however, was driven out of the country at the end of the following year, and was succeeded by Marshal Santa Cruz. He was exiled in 1839, and military governments, punctuated by revolutions, prevailed up to 1871, when a civilian, Morales, was elected president. Slavery was abolished in 1834.

In 1879 a war broke out between Chili and B. allied with Peru, of which the issue was disastrous to the allies. The terms of peace were severe, and stripped B. of her seaboard district, with its stores of nitre and guano, besides demanding a heavy war indemnity. Several violent attempts were made during the summer of 1890 to overthrow the government. Uprisings occurred in various parts of the country, the most serious one being led by Camacho, whose followers were defeated and dispersed in July. The government proclaimed the entire republic in a state of siege, and several of the leaders were arrested and sent to the frontier.

BOMBAY, *bŏm-bā′;* the w. province of India, with a governor appointed by the crown, a legislative council, and a European and native garrison under a local commander-in-chief. B., including Sind and Aden (q. v.), comprises 24 British districts, and 19 native or feudatory states, and contains 197,887 sq. m., of which 73,753 are in native states. The Nerbudda river divides the presidency, as in accordance with the old name it is still often called (see INDIA), into two portions; in the n. is Guzerat, chiefly consisting of alluvial plains, with the Cutch and Kathiawar peninsulas; to the s. is the Mahratta country, which includes parts of the Deccan, Carnatic, and Konkan or coast-districts. The political control of Baroda (q.v.) was transferred in 1875 from B. to the supreme government of India. The small territories of the Portuguese (Goa, Daman, and Diu) have an area of 1,062 sq. m. The coast line is irregular, broken by the gulfs of Cambay and Cutch, with several fine natural harbors, B. and Karachi (Kurrachee) being the most important. The chief mountain ranges run n. and s.: in the n. are the Khirthar mountains; in the s.e. are the w. Aravalli range; s. of the Tapti are the Sahyadri mountains or w. Ghats, which run almost parallel with the coast; the Satpura range runs e., and forms the watershed between the Tapti and Nerbudda. Sind is watered and fertilized throughout its whole length by the Indus; the Sabarmati and Mahi flow through the plains of n. Guzerat; the Nerbudda pursues a w. course into the gulf of Cambay. The Tapti flows through Khandesh district, entering the sea above Surat. Besides these, there are numerous hill streams, which are torrents during the rains and dry up in the hot season. The Runn or Ran (salt marsh) of Cutch (q. v.), in the w. of Guzerat, covers an area of about 8,000 sq. m., and is the great source of salt supply for the presidency. There are few minerals, and no coal; iron is mined at Teagar in Dharvar, and there is gold among the quartz. Good building stone is abundant, with limestone and slate. As to climate: in the dry sandy districts of Sind, the thermometer has reached 130° in the shade; the mean temperature in lower Sind, during the hottest months in the year, is 98° in the shade. In Cutch and Guzerat the heat is slightly less. The coast districts are hot and moist, with a heavy rainfall during the monsoon, which sometimes reaches 300 in. The tableland of the Deccan has an agreeable climate, except during the hot months.

Besides an Anglican bishop and his clergy, there are chaplains of the church of Scotland. In 1884-5 the entire number of schools and colleges aided by government, or under its inspection, was 6,726, with 438,416 pupils. The university of B. was founded in 1857; 840 candidates passed for admission in 1885. There were about 90 libraries, and 75 newspapers (19 Anglo-vernacular) in 1884-5. During the mutiny of 1857 the local army remained, on the whole, steady and faithful, and a portion of it, under Sir Hugh Rose, acted in the suppression of the insurrection. The army consisted in 1888 of 35,942 men, of whom 21,000 were natives. The headquarters is at Poona. B. has benefited vastly from the establishment and extension of the Indian railway system. The first railway in India was opened in B. in 1853; the presidency has now more than 3,500 m. of railway, giving communication with all the important towns of India. A cable telegraph from B. to Aden was laid in 1870; there are now private company cables, while the government Indo-European telegraph department has its headquarters at Karachi.

Of late years, manufacturing industries have been extremely active in B. Commanding the richest cotton fields in India, it has improved to the utmost its natural advantages. The stoppage of the American cotton-supply during the civil war gave a grand impulse to the B. trade, the exports of cotton during the five years, 1861-6, averaging in value $104,675,808 a year. The wealth poured into B. at this period led to a vast extension of the trade, which partly continued after the period of inflation had passed. The first mill was started in 1854, and 10 years later there were 13. In 1887 the presidency had 57 large steam factories, with 14,355 looms and 1,775,259 spindles, employing on an average 54,786 hands daily. In that year 4,017,925 cwt. of raw cotton were exported, valued at $48,[illegible]. But in addition to this, 1,868,[illegible] cwt. were consumed by the local industry. In [illegible] the imports of piece goods amounted to [illegible] yds. and of yarns to [illegible] lbs. Not only does B. thus compete with Manchester in the Indian market; it exports its own manufactures, these in 1887 being [illegible] lbs. of twist and yarn, valued at $[illegible], and of piece goods 41,[illegible] yds., worth $[illegible]. These results are the more striking in view of the abolition, in 1881, of the duty on cotton imports, which placed the local industry at a disadvantage. After cotton, the other great staples are opium, wheat, and seeds. The trade in opium is worth nearly $25,000,000; $10,000,000 being the clear revenue derived by government from a pass duty of $176 a chest. Although of recent origin, the wheat trade has assumed large proportions. In 1887 the exports amounted in value to $27,099,375. Other principal exports are sugar, tea, raw wool, woolen shawls, fibres, and drugs; while among the imports are machinery, metals, oils, coal, and liquors. There is a considerable trade in Arab horses, of which 3,126 were imported in



Cotton Merchants at Bombay.

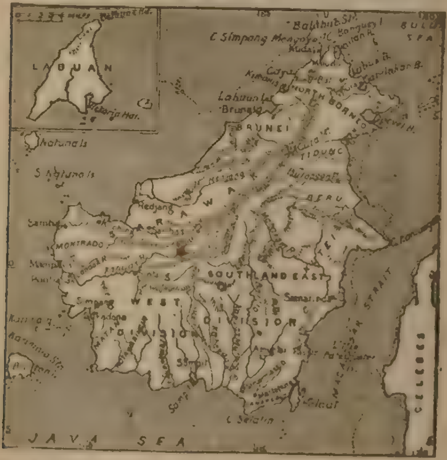
1887. The total imports in 1890 amounted to $140,914,673 and the exports to $139,587,103. Of the imports (1886-7) $106,470,317 worth were from Great Britain, which took $48,100,843 worth of the exports. Silk weaving is carried on at Ahmedabad, Surat, Nasik, Yeola, and Poona; carpets are made at Ahmednagar, leather work and pottery in Sind, brass-ware in B. city, Nasik and Poona; cutlery, armor, and gold and silver work in Cutch. Population 1881 of native states, excluding Baroda, 6,941,249, of British territory, 16,489,274, of whom nearly 18,000,000 were Hindus, 3,500,000 Mohammedans, less than 1,000,000 aborigines, 145,154 Christians, 127,130 Sikhs, 198,443 Jains, 73,973 Parsees, 9,023 Jews, etc.

BORNEO, *bawr'nē-ō:* next to Australia and Papua the largest island in the world, is sitated in the Indian archipelago, in 7° 3′ n. 4° 10′ s. lat., and 108° 53′–119° 22′ e. long. It is bounded on the e. by the sea of Celebes and the Macassar strait, s. by the sea of Java, w. and n. by the gulf of Siam and the China sea. Its length is about 800 m., with a breadth of 700, and an area of about 284,000 sq. m. The population is roughly estimated at 1,865,000, but may be more.

The principal divisions of this great island are as follows:

	Area, sq. m.	Pop.
DUTCH –		
West Coast	58,926	413,000
South and East Coast	144,788	677,939
BRITISH –		
North Coast	31,106	175,000
Sarawak	45,000	300,000
Brunei	8,000	225,000
Labuan	30¼	6,015
Total	282,850¼	1,796,954

The coasts, which are often low and marshy, and rendered dangerous to navigation by numerous islets and rocks, present no deep indentations, though they are pierced by numerous small bays and


LABUAN
Victoria Har.
Balabac Str.
C. Simpang Mengayau
Kudat
Banguey I.
Labuk B.
Sandakan B.
Kimanis B.
NORTH BORNEO
Labuan I.
Brunei
BRUNEI
Darvel B.
Natuna Is
S. Natuna Is
TIDUNG
Redjang
SARAWAK
BERAU
Sambas
MONTRADO
Mempawa
Pontianak
SOUTH AND EAST
Samarinda
WEST
DIVISION
Simpang
Sukadana
Karimata I.
Karimata Str.
Sampit
MACASSAR STRAIT
Pasir
Laut
C. Selatan
JAVA SEA
CELEBES

creeks. A great part of the island must be described as mountainous; but the relations of the various ranges and groupings are still very imperfectly known, and in very few cases has the altitude of the leading summits been accurately ascertained. In the far n. rises the magnificent structure of Kinabalu, 13,698 ft. high, built up of porphyritic granite and igneous rocks—the culminating peak probably of the whole Indian archipelago, and not unworthy in its picturesqueness of such a rank. Throughout the narrow n. portion of the island there runs a kind of central ridge in a general s.w. direction, with highest points ranging from 4,000 to 8,000 ft.; and this can be traced, at least as a water parting, far to the s.w.; though broadly speaking, the whole country is cut up and broken as it were in a most irregular manner. This is the result of the great process of denudation, [illegible] the tropical rains, which, scooping out the interior valleys, [illegible] have also formed the vast alluvial tracts that extend seaward into deltaic morasses. As far as is yet known, the mountain framework of the whole island consists, like Kinabalu, of eruptive and crystalline rocks of high antiquity. Of modern volcanic activity, so prevalent elsewhere in the Indian archipelago, there is in B. no trace either in tradition or in the record of the rocks. A large proportion of the surface, not covered by alluvium, consists of tertiary deposits, in regard to the age of which, however, geologists are not agreed. Pages might be filled with the mere nomenclature of the rivers of B.; the more important may be seen on the accompanying map. Though many are powerful streams, navigable far inland for boats of considerable burden, their value as waterways is lessened by the bars which usually prevent the entrance of sea-going vessels, and in their upper reaches by frequent rapids and occasional waterfalls. In connection with the river-systems there are numerous lakes in B., but of true mountain lakes on a large scale there are probably few. The great lake of Kinabalu, which figured in older accounts with 100 m. of circumference, is a pure myth, based, perhaps, on a misunderstood description of the great grass covered plain of Danao.

The climate in the low grounds is humid, hot and unhealthy for Europeans; but in the higher parts toward the n. the temperature is generally moderate, the thermometer at noon varying from 81° to 91° Fahr. During the rainy season, from November to May, heavy storms of wind with loud thunder are experienced on the w. coast. The influence of the land and sea breezes passes inland to quite remarkable distances across the level plains and up the river-valleys. Vegetation is extremely luxuriant. The forests produce iron-wood, bilian, teak, ebony, sandal wood, gutta percha, dye-woods, benzoin, wax, dragon's blood, sago, various resins, vegetable oils, and gums. The camphor of Brunei is the best in Asia. The mohor tree, well adapted for making native boats, attains a height of 80, and the kalelang, suited for large masts, of 200 ft. Nutmegs, cloves, cinnamon, pepper, betel, ginger, rice, millet, sweet potatoes, yams, cotton in Amuntai, sugar-cane in Sambas and Montrado, indigo, tobacco, coffee in Sambas, pine apples, coco nuts, etc., are cultivated. The mountains and forests contain many monkeys, among which is the orang outang. Tapirs, a small kind of tiger, small Malay bears, swine, wild oxen or banteng, and various kinds of deer abound. The elephant is only found in the n., and the rhinoceros in the n.w. The few domesticated animals are buffaloes, sheep, goats, dogs and cats. A few horses are seen in Banjermassin. Among the birds are eagles, vultures, argus pheasants, peacocks, flamingos, pigeons, parrots, and also the swifts (*Collocalia esculenta*) which construct the edible nests prized by the Chinese for making soup. The rivers, lakes and lagoons swarm with crocodiles and many kinds of snakes, frogs, lizards and leeches. Fish is plentiful, and the coasts are rich in tortoises, pearl mussels, oysters and trepang. Brilliant butterflies and moths are in great variety. Among the mineral products are coal, gold and copper, especially in Montrado; antimony, iron, tin, platina, nickel, diamonds and other precious stones, rock crystals, porcelain clay, petroleum, and sulphur. The diamond mines are chiefly in Landak and Pontianak (q.v.); Sambas produces the greatest quantity of gold, the kingdom of Brunei, Kutei, and Banjermassin, the largest amount of coal. The Pengaron coal field, worked by the Dutch government, is one of the most important.

The population consists of three classes: the Dayaks or Dyaks (q.v.), who are the aboriginal heathen inhabitants, and constitute the great bulk of the population; the Mohammedans or 'Malays' (for this name is extended so as to include all professors of Islam, whether true Malays, Buginese, Javanese, Dyaks, or Arabs), and the Chinese. The Dyaks live chiefly in the interior, and employ themselves with tillage and the collection of gutta percha, resin, gums, ratans, gold-dust and wax. They are divided into numerous tribes. The Malays (using the name ethnographically) dwell on the coasts, are traders and bold sailors. They are more civilized than the Dyaks, cultivate the grounds around their houses, lay out gardens, keep cattle, and live partly by fishing. The Chinese, chiefly from Canton, have penetrated far into the interior. They engage in trade and mining, are unwearied in their efforts to make money, and then return to their native country. They have always endeavored to live as independent republics (*kongsis*) under chiefs chosen by themselves and according to Chinese laws. In 1857 the Chinese living in Sarawak rebelled and were nearly exterminated. The Dutch were also compelled to put them down by force of arms, and have imposed a poll tax.

The women of B., except the Dyaks, weave cotton fabrics, make earthenware, baskets, and mats of beautiful designs and colors. In the district of Banjermassin are factories of weapons. The principal exports are gold, gold-dust, diamonds, coal, ratans, gutta percha, edible nests, cotton, wax, timber, dye woods, mats, resins, sandal wood, camphor, etc.; the imports, earthenware, iron, steel, and copper work, piece goods, yarn, woolen and silk fabrics, medicines, wines, spirits, rice, sugar, tea, tobacco, opium, trepang, gunpowder, etc. Borneo has never formed a political unity, and there is no native designation of the island as a whole. The name Borneo (Burneï or Bruneï) in fact properly applies only to the Malay kingdom on the n.w. coast; and Kalamantan or Kalamantin, sometimes quoted is also of limited purport. The following are the political divisions:

(1) *Borneo Proper.* This originally included nearly the whole of the n.w. of the island. The sultan has absolute authority. In 1847 he undertook not to surrender any of his territory to any other power without the sanction of the British government. The capital, Bruneï, 20 miles from the coast, on the river of the same name, has at the most 20,000 inhabitants; whereas it was credited by Pigafetta (16th cent.) with 25,000 houses. The total population of the country within its present limits at 125,000. Its area was reduced by the erection of

(2) *Sarawak* (q. v.) into a practically independent principality by Sir James Brooke (1841-68), and by the establishment of

(3) *The British North Borneo Company* as a recognized governing body. The company's charter, granted in 1881, transferred to them rights originally obtained by an American adventurer in 1865. This territory consists partly of a portion of the old kingdom of Bruneï, partly also of districts on the e. coast, claimed by the sultan of the Sulu islands. Against the British occupation of the Sulu territory, a protest was made by Spain, which had for some time been gradually incorporating the sultan's possessions. As a matter of fact, the British North Borneo Co. has been successful in appropriating and developing its territory, which, with an area of 30,700 sq. m., and a coast line of 900 m., is now divided into the e. coast Residency and the provinces of Dent, Keppel, and Alcock, and has its capital at Elopura or Sandakan, the largest settlement, with 5,000 inhabitants. The population of the territory is estimated at 200,000.

(4) *Dutch Possessions.* By far the largest part of the island is ruled directly or indirectly by the Dutch, who have divided it into the Residency of the w. division of B., and that of the s. and e., the former having Pontianak (q. v.) as the seat of government, the latter Banjermassin (q. v.). Besides a number of smaller dependencies, the w. division contains the kingdom of Landak, Tayan, Mampawa, Sukadana, Simpang, Matan, Sekadow, Sintang, Sambas. Among the separate states which go to form the s. and e. division are Kotaringin, Banjermassin, and Martapura. In consequence of a decree of the sultan of Banjermassin, the district watered by the Great Dyak or Kahayan is preserved for the native tribes, who in 1879 were estimated at 18,000 souls; Chinese, Malays, etc., are forbidden to ascend the river higher than the Kanpore Pilany. The same is the case with the basins of the Kapuas Murung, known as the Little Dyak district. The population of the whole of the Dutch portion of the island in 1881, Dec. 31, was 959,491, of whom 799 were Europeans, 31,550 Chinese, 924,731 natives, 2,070 Arabs, and 341 miscellaneous orientals. In the number of natives are from 200,000 to 300,000 Malays settled along the coast.

(5) *The Island of Labuan* (q. v.), off the coast of Bruneï, has belonged to the British since 1846.

The chief towns in B. are Sambas (10,000), Pontianak (9,000), Banjermassin (30,000), Bruneï (20,000), and Kuching (12,000).

The Chinese had commercial dealings with B. as early as the 5th cent., but they made no settlement for a long time after. The Malay kingdom of B. proper dates back to the 13th cent. Another Malay settlement of later origin, Sambas, was at first dependent on Johore (q.v.) in the Malay peninsula. Sukadana was founded by Hindu Javanese from the kingdom of Majapahit (see JAVA), and spread its influence on the whole s. part of the w. coast. Mampawa was a Buginese settlement, and Pontianak was founded as late as 1771 by a colony of Arabs, Malays, and Buginese. Islam began to be preached by Arabs from Palembang in the 16th century.

The Portuguese effected a settlement in 1690 at Banjermassin. The Dutch erected a fort and factory in 1643, and a second in 1778 at Pontianak. The British made unsuccessful attempts in 1702 and 1774 to effect a settlement in B., but have within the present cent. acquired a predominating influence on the n.w. coast. See Wallace's Malay Archipelago (1869); Burbidge's Garden of the Sun (1880); Bock's Head Hunters of Borneo (1881); Frank Hatton, North Borneo (1885); Handbook of British North Borneo (1886).

BOSNIA AND HERZEGOVINA.

BOSNIA AND HERZEGOVINA, *bŏz′-nĭ-â* and *hĕrt-sĕh gō-vē′-n* In accordance with the provisions of the Berlin treaty of 1878 this portion of Turkey in Europe was handed over to the administration of Austria Hungary, who already possessed the adjoining province of Dalmatia, a long slip of coast divided from B. and H. by the Dinaric Alps. Although not formally incorporated by treaty, these provinces, together with the sanjak of Novi-Bazar (between Montenegro and Servia), from virtually a portion of the empire-monarchy, and enjoy the advantage of a settled government. Their joint area is nearly half that of England or 23,262 square miles.

Their physical features are in striking contrast. B. the most beautiful of the Balkan provinces, reminds one of Styria or the Tyrol in its rugged mountainous character, its dense, almost virgin, forests, and in the picturesqueness of its valleys. The Dinaric Alps, here attaining a maximum altitude of 7,663 ft., form the water-parting between the Adriatic and Danube basins; and four rivers—the Unna, the Verbas, the Bosna (from which the province takes its name), and the Drina—flow n. to their confluence with the Save. The H., on the other hand, is a wild district, overstrewn with cyclopean rocks, and watered chiefly by the streams which form in winter in the higher lands, and, save in a few depressions, eventually lose themselves underground.

Unlike Slavonia and Hungary, B. offers no advantages for the growth of cereals; but, as in Switzerland and the Tyrol, flocks and herds may be reared with profit. The commerce of B. is almost exclusively in the hands of the Jews, the majority of whom reside in Serajevo or Bosna-Serai, the capital. With the exception of the Jews, Tsigans (Gypsies), and some Osmanli (functionaries, soldiers, and merchants) who live in the larger towns of B., all the inhabitants of the Illyrian Alps are Salvs, and in H. their characteristics are most strongly marked. The Bosnians themselves, though united by race, are divided by religion—Mussulman against Christian, Greek-orthodox against Roman Catholic. Hence, in spite of every natural advantage, they were, unlike their Servian brethren, unable to emancipate themselves from the Turkish yoke. Although they form little over a third of the population, the Mussulmans possess more than their share of landed property.

The superficial area in square miles of B. is about 16,142; of H., 3,515; and of Novi Bazar, 3,522. In the year 1888 the population of the former two was 1,401,000, composed as follows: Mohammedan, 492,710; Greek orthodox, 571,250; Roman Catholics (with three bishoprics), 265,788; Jews, 5,805; the remainder belonging to different faiths. Novi Bazar had in 1879 a population of 168,000. The most populous towns are, the capital, Seragevo, 26,268; Mostar, 12,665, and Banjaluka, 11,357.

History.—B., in ancient times a part successively of Illyria, Pannonia, and Dalmatia, was during the great migrations occupied by Slavs or Slavonized Illyrians, at first dependent on Hungary; but it became a kingdom in 1376, under Tvartko, a native prince. Occupied by the Turks in 1401, it was annexed in 1463, but not recognized by Europe as a Turkish province till 1699. Extortionate taxation caused a rebellion of the Christians in 1850, suppressed by Omar Pasha; but a more determined rising in 1875, which the Turks failed to put down, led to the occupation of the province by the Austro Hungarians, which the Moslem population opposed in a fierce but unavailing struggle. The treaty of Berlin formally intrusted the administration to Austria Hungary, the nominal supremacy of the sultan being recognized (1879). Since 1880 Austrian methods of government have been gradually introduced. See A. Evans, Through Bosnia and Herzegovina on Foot (1876); Strauss, Bosnien (2 vols. Vienna, 1882-4); and Statistik von Bosnien und der Herzegowina (Bosna S. 1886).

BRAZIL, *bra-zil'* (Port. *brä-zēl'*): the largest state of South America, and the third largest political division of the Western Continent, is greater in area than European Russia, Austria-Hungary, Germany, France, Norway and Sweden, Denmark, Italy, and Greece together. It extends from 4° 30' n. to 33° s. lat., and from 35° to 73° w. long., having a length of 2,660 m., and a breadth of 2,705 m. between extreme points (Carta Geral, 1883). Its coast line extends from Cape Orange on the n. to Rio Chuy on the s., a distance nearly 4,000 m. It borders on every state in South America except Chili, but the boundary lines with some of them are still in dispute. The area of B., estimated by some as high as 3,288,000, is more likely about 3,219,000 sq. m. (3,219,134, Carta Geral), or nearly one-half of the South American continent.

Physical Features. B. is a triangular-shaped country, occupying the e. angle of the continent. It lies almost wholly within the tropics, and is still in great part unexplored and unsettled. On the n. and w. are the great depressions of the Amazon and Paraguay rivers, which comprise large areas of flood plains and swamps, heavily wooded, and almost uninhabitable. The upper coast is bordered by low, alluvial bottom lands and sandy plains, full of lakes, and in places very sterile; while the southern angle of the country is rolling campo land, bordered by a low sandy coast. Above its e. angle a large area of coast-lands and neighboring plateau is subject to periodical devastating droughts. The interior of the country, however, is a high plateau, with a general elevation of 1,000 to 3,000 ft., irregularly ridged by mountains and deeply cut by large rivers. The mountainous ranges of the maritime system front the e. margin of this plateau, the easternmost of which is known as the Serra do Mar. This range plays an important part in the development of B., for it is a costly barrier to communication with the interior, and turns nearly all the great rivers inland to find outlets through the distant Amazon and La Plata. To the w. of the maritime system the elevated tablelands of the Parana and San Francisco make great bay-like indentations in the n. and s. margins of the mountainous area, nearly uniting about the head waters of the latter. To the w. of these plains there is a second range, nearly parallel with the maritime system, constituting the mountains of Goyaz. To the w. of these come the great elevated plains of the Amazonian and Upper Paraguayan regions. The mountains are composed almost exclusively of uplifted strata of great geological age, gneiss and metamorphic schists, with granite and other eruptive rocks. The great elevated plains are composed of horizontal strata dating from the Silurian age, so profoundly modified by the deep excavations of the valleys that this part of the country is generally, but erroneously, represented as mountainous. B. possesses three great river systems, the Amazon, La Plata and San Francisco. The Amazon and its tributaries drain fully a half of the country. To the e. of the Madeira these tributaries are tableland rivers, broken by rapids and freely navigable for only comparatively short distances. W. of the Madeira they are lowland rivers, sluggish, bordered by extensive flood-plains, and afford free navigation for long distances. The La Plata system drains nearly one-fifth of the country through its three branches, the Paraguay, Parana, and Uruguay. The first of these is a lowland river freely navigable for a long distance, while the other two are tableland rivers, full of obstructions, and without free outlets for their upper level navigation. The San Francisco is a table-land river, flowing n. between the Goyaz and maritime mountains, and then, breaking through the latter, e. to the Atlantic. Its tributaries are comparatively short, and nearly disappear along the lower river in the region of slight rainfall. It is not freely navigable because of the Paulo Affonso Falls. The other coast rivers are generally short, the largest being the Parahyba, and have but little value for navigation. The climate of B. varies greatly: the lowlands of the Amazon and a great part of the coast being hot, humid, and unhealthy, while the tablelands and some districts of the coast swept by the trade-winds are temperate and healthy. See AMAZON, AMERICA.

The vegetation of B. is luxuriant and varied. The vast forests of the Amazon contain hundreds of species of trees, draped and festooned by climbing plants, lianas, creepers, etc. Rosewood, Brazil-wood, and others supply valuable timber; medicinal plants are abundant, and other products are noted in the section on commerce. The number of species of animals is also very large, but the individuals in each are comparatively few. Beasts of prey are the jaguar, puma, tiger-cat, and ocelot; the other animals include the monkey, tapir, capybara, peccary, ant-eater, sloth, and boa-constrictor. Alligators, turtles, porpoises, and manatees swarm in the Amazon; and among birds, the parrots and humming-birds are especially numerous.

Population.—The population of B., according to the census of 1872, was 9,930,478 of all races and classes, not including about 250,000 wild Indians. As immigration has been small, and the rate of mortality is very large, the annual rate of increase since then has probably not exceeded 1½ per cent., which gives a population of 14,002,335 at the close of 1888. The proportion of non-producers is very large, the natural conditions of the country rendering labor but slightly necessary to meet the ordinary requirements of life. The institution of slavery has had much to do with this state of things, by degrading manual labor, and making idleness respectable. The African slave-trade was prohibited in 1831, but did not actually cease until 1854. In 1871 a gradual emancipation law was adopted, which declared the children born thereafter of slave mothers to be free, but obliged to serve the mother's master until the age of twenty-one years. It also provided for a fund with which to liberate slaves by purchase. The number of slaves registered in 1873 under this law was 1,540,796. Through the operations of the fund 30,014 slaves had been ransomed up to the beginning of 1887, at a total cost of $10,634,802, to which the slaves contributed $871,778 from their own savings. The number of slaves voluntarily liberated and ransomed through private efforts was very large and two provinces (Ceará and Amazonas) had been declared entirely free. In 1885 a second law was adopted, providing for a new registry, declaring all sexagenarians free, but with obligatory service until the age of sixty-five years, and fixing an official valuation on all slaves, to prevent further abuses of the emancipation fund. The official returns of the registry under this law (closed 1887, March 31) gave 723,419; the number of sexagenarians liberated was about [illegible], and the number enrolled for obligatory service under the law was [illegible]. Finally, by the law of 1888, May 13, immediate and unconditional emancipation was decreed, although B. had been unable wholly to replace the system of slave labor. Immigrant labor was still limited, the poorer rural population was both untrained and opposed to habits of industry, and the labor of freed slaves had hitherto been utilized only to a limited extent. Recent events, however, have proved that kind treatment and good pay will keep a very large percentage of the freedmen on the plantations.

The Roman Catholic was the established religion, and was supported by the state, but the republican government has abolished the connection between church and state, although continuing the allowance to the clergy formerly provided by the state, and has agreed to maintain the chairs in theological seminaries for a year longer, at least. The states individually may subsidize any form of religion desired. There are, however, less than 30,000 non-Catholics in the country. Education is compulsory in several provinces, but is still in a very backward condition, 84 per cent. of the population was returned as illiterate at the last census. In 1889 the number of children attending schools, public and private, was estimated at 300,000. The language is Portuguese, with dialectal varieties, discussed by Vasconcellos in *O Dialecto Brazileiro* (Oporto, 1883), and the literature, which dates back to the 16th cent., will fall to be noticed under PORTUGAL.

Government.—B. is constituted as the federative republic of the United States of B. Each state is self-governed, the federal government only interfering for its defense and enforcement of federal laws. Foreign affairs, customs, postal and fiscal management belong to the federal government. The president and vice-president are elected for a term of six years, and the president is not eligible for election for the succeeding term.

The president has large powers, such as command of the army and navy, power to declare war, appointment of members of the supreme federal tribunal. Congress meets annually, independent of summons, and sits four months, but may be prorogued or convoked extraordinarily by the president.

The members of the house of representatives are elected for three years, senators for nine years. Each state sends three senators, one of whom retires every three years. Each district of 70,000 population elects a representative. The cabinet ministers cannot appear in either house, but must communicate by letter.

The franchise is practically universal suffrage; monks, soldiers in active service, and illiterates being alone excluded.

On a peace footing in 1889 the army of B. consisted of 956 officers and 15,689 men, comprising 7[illegible]4 engineers, 2,572 artillery, 2,416 cavalry, 9,531 infantry, and 162 in transport service. There were also 6,880 gendarmes. Military service was made obligatory by the law of 1875, which allows exemption or substitution on payment of $600. The term of service is six years in the regular army and three years in the reserve. The reorganization of the army began in February, 1890, its strength being fixed by a decree of the provisional government at 21,877 men, of all arms; one regiment of artillery, two of cavalry, and six battalions of infantry being added to the former establishment.

The navy comprises 2 English built turret ships, protected by a belt of 11 inch steel faced armor, and carrying four 20-ton breech loading guns, besides machine guns and 70-pounders; 2 other armor-clads, 2 powerful armor-plated vessels of light draught, with four 10-inch guns, each mounted in two turrets, and 4 other iron clads for coast defense. The unprotected vessels include 3 first-class cruisers, and 2 second-class. There are also 14 torpedo boats, 5 first class, 6 second class, and 3 third class, and a torpedo school-ship, 2 training corvettes, 9 screw gunboats, 8 side wheel gunboats, and 2 transports.

Finance. The revenue of B. for 18 months prior to 1887, Dec. 31, was $110,[illegible],750 and the expenditure $[illegible],000. Since 1887 the fiscal year has been made to correspond with the calendar year. The budget for 1890 estimates the revenue and expenditure at $82,500,000. Of the last 50 years not more than two have yielded a surplus of revenue over expenditure. For the decade 1875-6 to 1884-5 inclusive, the average deficit was about $15,955,000 a year. The total public debt 1889, Nov. 11, was $[illegible], of which $148,717,800 was foreign, $2[illegible],971,750 domestic funded debt, and $141,961,050 the floating debt, including paper money, savings bank funds, etc.

Commerce. The industries of B. are confined almost exclusively to agriculture, mining, and forest products, manufacturing having thus far been but slightly developed. Stock raising has totally failed to keep pace with the domestic consumption of jerked beef, which is largely imported. The coast fisheries have also been neglected, although B. is a large consumer of codfish. The forest products are rubber, maté, nuts, cocoa, medicinal plants, cabinet and dye woods, etc. The first ranking third in importance as an article of export. Of agricultural products, coffee occupies the first place, and furnishes about two-thirds of the total exports of the whole empire. The Rio and Santos export in 1886-7 was 5,871,170 bags of 60 kilogrammes each. The normal export from the whole empire is 6,500,000 to 7,000,000 of bags. Sugar ranks second in importance as an export, and is now receiving special encouragement from the state, in the grant of interest guarantees on central usines. The production of cotton and tobacco has considerably decreased, and that of tapioca has nearly disappeared. Rice, maize, and many other products are easily grown, but have been overshadowed by coffee and sugar, and to some extent discouraged by the high cost of internal transportation. In colonial times the mining industries attracted much attention, and yielded large results. They are now comparatively unimportant, and are restricted in development by unfavorable mining laws. Gold and diamonds are found in Minas Geraes, Paraná, and Bahia, but the annual production at present is not large. Iron ores of superior quality exist in several provinces, but there are no large mines in operation, the absence of coal being a serious obstacle to the development of this important industry. The productions and commerce of B. cannot be treated briefly and comprehensively, because of the total lack of reliable statistics. There are no trustworthy official reports on these subjects, the tables given being so defective and full of clerical errors as to render them valueless. An official report for 1884-5 gives the aggregate value of the agricultural, grazing, and extractive products for that year at about $[illegible]. The value of the principal exports for the year ending 1887, June 30, was $[illegible]. The total value of imports in 1888 was estimated at $143,549,430; that of exports at $110,[illegible], of which coffee alone contributed $[illegible]. The aggregate value of the inter-provincial coasting [illegible] was estimated at $73,870,164. About one-[illegible] of B. go to the United States, the same ra[illegible] [illegible] France [illegible] Germany. [illegible] France [illegible]. The United States furnished only five and one-half per cent. of the total imports in 1888, being but little more than the proportion of Belgium, and less than that of Portugal. The chief imports are cottons, wines and spirits, the next in importance being preserved meat and fish, woolens, coal, flour, linen goods, and iron and steel manufactures. The new reciprocity treaty with the United States is expected to develop considerably the trade between the two countries. The mistaken policy of levying export duties on domestic products, and heavy import duties on foreign goods, has done much to restrict production and commerce. Moreover, the system of protection is even gaining ground, and a few industries have already been established on the encouragement given. As no land tax, which would be opposed by the great landed proprietors, is levied, the loss of revenue through any effort to protect national industries will certainly lead to serious financial difficulties. It should be added that the inhabitants of the s. provinces of the empire are broadly distinguished by their energy from the more indolent northerners. It is in the s. provinces that the numerous German colonies (comprising some 220,000 Germans) are mostly established.

Steam communication with Europe was opened in 1850 and telegraphic communication 1874. During 1888 there were 3,243 vessels, aggregating 2,301,022 tons, engaged in ocean commerce, which entered the ports of B.; of these, 2,858, of 2,116,964 tons, were foreign, and 385, of 174,558 tons, Brazilian; the clearances numbered 2,390, including 2,267 foreign vessels, of 2,346,682 tons, and 123 Brazilian vessels, of 701,103 tons. In the coasting trade were 1,545 foreign and 3,279 Brazilian vessels, with a total capacity of 2,131,373 tons, entered, and 1,342 foreign and 3,290 Brazilian vessels, aggregating 2,410,006 tons, cleared. The mercantile navy in 1880 comprised 506 vessels, of 149,066 tons, of which 121, of 67,707 tons, were steamers. The first railway was opened in 1854; in 1889 there were 5,582 m. of railroads in operation, 984 m. in construction, and 4,938 contemplated. Of the roads completed the state owned 1,441 m. and had guaranteed 1,748 belonging to companies, the provincial governments having guaranteed 1,654 m. more. The capital expended on the state lines was $88,[illegible], and on all the railroads $268,481,5[illegible]9. In 1887 there were carried 7,315,480 passengers and 1,82[illegible] tons of freight, the receipts being $2[illegible] and the expenses $13,[illegible],513. The receipts on the state lines in 1888 were $7,8[illegible]068 and the expenses $4,982,468. In 1889 there were 6,700 m. of telegraph lines, with 18,489 m. of wire. The number of messages was 56[illegible],945; receipts, $837,760; expenses, $1,335,389.

History. B. was first discovered in 1500, Jan. 26, by Vicente Yañez Pinzon, who landed at Cape St. Augustine, near Pernambuco, and then followed the coast n. to the Orinoco. In the same year a Portuguese expedition to the East Indies, under Pedro Alvarez Cabral discovered the Brazilian coast, near Porto Seguro, on Apr. 25 (Apr. 22, Cazal). Cabral took formal possession and named his new discovery 'Terra da Vera Cruz.' Two Portuguese expeditions were sent out in 1501-3, the first exploring the coast from 5° to 32° s. lat., and the second planting a colony and bringing back a rich cargo of Brazil-wood (q.v.), which gave a name to Portugal's new possession.

In 1530 the Portuguese government resolved upon the definite settlement of B. and the plan adopted was its division into hereditary captaincies which should be granted to private individuals, with ample powers for the founding of colonies on their own account. Many of the earliest colonies failed through lack of means, and from inability to hold their ground against the natives. In 1567 a Huguenot colony established on the bay of Rio de Janeiro twelve years before, was overthrown by the Portuguese, who then founded the present capital of B. Portugal and her colonies having become dependencies of Spain, a squadron sent out by the Dutch in 1623 to seize B. captured the colonial capital, Bahia. The Dutch lost the city in 1625, but in 1630 they captured Pernambuco, which with several neighboring places, they held for over twenty years. In 1640 Portugal regained her independence, and in 1654 her former possessions, but without any definite settlement of her boundary disputes with Spain. In [illegible], her claim to the territory on the e. shore of the La Plata, the town of Colonia opposite Buenos Ayres, was founded in 1680. This was the beginning of a bitter struggle for the possession of Uruguay, lasting nearly 150 years, until the independence of that territory was formally recognized in 1827 by Dom Pedro I. The discovery of gold in Minas Geraes in 1693, and of diamonds in 1728, gave a new impetus to the growth of the country, one result of which was the removal of the colonial capital from

Bahia to Rio de Janeiro. The cultivation of cotton, tobacco, and sugar-cane had already attained great prominence and prosperity in the n. captaincies. The colonial system of Portugal, however, was one of selfish exclusion and greedy extortion. The colony was rigidly closed to foreigners, industry was burdened by restrictions and monopolies, the taxes were farmed out, the authorities were arbitrary and grasping, the administration of justice was slow and corrupt, printing was forbidden, the people were grossly ignorant, turbulent, and immoral, and internal communication was slow and difficult. In 1808 the royal family of Portugal was expelled by the French and took refuge in B. and the very first act of Dom João VI. was to open Brazilian ports to foreign commerce. He then removed various restrictions on domestic industries, founded a printing-office and library, created new courts, and opened various schools and public institutions. All these acts greatly stimulated the growth of the country. In 1821 he returned to Portugal, leaving his eldest son in B. as prince-regent. Personal ambition, and the advice of men opposed to government from Lisbon, led the young prince to declare for Brazilian independence, 1822, Sept. 7. He was proclaimed and crowned emperor as Dom Pedro I. before the end of the year, the small Portuguese force in the country being quickly and easily expelled. The constitution was ratified and sworn to early in 1825, and some amendments were added in 1834. The new empire, however, did not start smoothly, nor was the reign of Dom Pedro I. a fortunate one. Vexed with the opposition encountered, he in 1831 voluntarily abdicated in favor of his eldest son, and withdrew to Portugal. During the next nine years B. was governed by regencies, but in 1840 a popular agitation led to the declaration of the young prince's majority, at 15 years of age, and to his coronation the following year as Dom Pedro II. The reign of this sovereign was one of almost unbroken peace, interrupted only by one or two insignificant revolutionary outbreaks, and by two foreign wars, one to overthrow the Rosas dictatorship in Buenos Ayres in 1852, and the other against Paraguay in 1865-70, until 1889, when by a short and practically bloodless revolution, the empire was overthrown, and the imperial family quietly departed to Lisbon. The old emperor was broken hearted at his exile, for he dearly loved B. and he died toward the close of 1891. Gen. Deodoro da Fonseca became president of the republic of the United States of B.; but posing as a dictator, he in 1891 dismissed the congress. Revolts broke out in Rio Grande do Sul, and Rio de Janeiro itself, as well as in Para and Bahia, and at last Fonseca was forced to resign, and was succeeded by the Vice Pres. Peixotto, who at once recalled the dismissed congress. The country is now quieting down, but so far the experience of the republic has contrasted not wholly well with the unselfish and democratic rule of Dom Pedro. The bane of the South American republics has been the personal ambitions of military chiefs, leading to dictatorships, bloodshed, and unrest. It is to be hoped that the new republic of B. will have better fortune than her first experience with Fonseca seemed to promise.

See A Journey in Brazil, by Prof. and Mrs. Agassiz (1868); Hartt, Geology of Brazil (Boston, 1870); A. R. Wallace, Travels on the Amazon (1870); Bates, The Naturalist on the Amazon (1873); Mulhall, Handbook of Brazil (Buenos Ayres, 1877); Fletcher and Kidder, Brazil and the Brazilians (9th ed. Philadelphia, 1879); H. H. Smith, Brazil, the Amazon, and the Coast (1880); Sellin, Das Kaiserreich Brasilien (1882); Zöller, Die Deutschen im brasilischen Urwald (1883); Wells, Three Thousand Miles through Brazil (1886); and for the history, Southey's History of Brazil (1810-19), and the Portuguese works of Costancio and Pereira da Silva.

BRITTANY, *brit'-ta-ni*, (Fr. *Bretagne*): the great n.w. peninsula of France, extending in triangular form into the sea, its base resting on Normandy, Maine, Anjou, and Poitou, its sides washed by the channel and the Atlantic ocean. In earlier times it formed, with the name of duchy, one of the provinces of France; now it forms the five departments of Finistère, Côtes-du-Nord, Morbihan, Ille-et-Vilaine, and Loire Inférieure, with a total area of 13,130 sq. m., and a population (1886) of 3,136,400. Before the revolution, this district fell into the nine dioceses of Rennes, Dol, Nantes, St. Malo, and St. Brieuc, Tréguier, Vannes, Quimper, and St. Pol de Léon: of which the first five made up the two popular divisions, the names of which are still indeed in general use: Upper Brittany (Haute Bretagne): the last four, Lower Brittany (Basse Bretagne). Though the height of its mountains nowhere exceeds 1,150 ft., their structure gives to the peninsula a wild and savage aspect. Clay slate forms the centre of the country, and masses of granite rise in the n. and the s. The climate is often foggy, and subject to violent storms of wind. Large tracts of land lie uncultivated; but in the well watered valleys vegetation is luxuriant. The peculiar shut-in situation and the characteristics of soil and climate in B. seem to have had a powerful effect on the character of its people. The Breton has generally a tinge of melancholy in his disposition; and often conceals, under a dull and indifferent exterior, a lively imagination and strong feelings. He is passionately attached to his country and his customs and is strongly averse to change. A bold seaman and steady soldier, he is devoted in his loyalty to time-honored authority in church and state, and is capable of extraordinary devotion and sacrifice of self for his ideal. His piety is profound, although simple and unaffected; his pride, serious and self-respecting, entirely free from that petty peevishness and uneasy watching for small slights which so often belittle the real dignity of the Celtic nature. The manners of the natives might be called rude but for their simplicity. The percentage of illiterate persons in Morbihan is 50; in Loire Inférieure, Côtes du Nord, and Finistère, it sinks to 40, in Ille et Vilaine it is as low as 30. Thus book learning, so far as regards French books, has hardly yet reached more than a half of B., and the Bretons would be ignorant and uncivilized indeed but for a quite extraordinary wealth of traditional song and story, that serves effectively all the purposes of a national culture. Perhaps nowhere in the world has folk lore reached such a high development, and this not less in quality than in quantity; for no traditional stories come near the Breton folk tales, no popular poetry the Breton folk-songs. It must not be forgotten that there has long existed a pretty abundant literature, at least in religious subjects, in the Breton language, and that even in our day many natives are capable of reading this who do not read, and need not even speak, French. No part of Europe contains so many megalithic monuments as B. Within the province are more than 600 dolmens, and more than 800 isolated menhirs, and these moreover the grandest examples in the world. The largest, at Locmariaquer in Morbihan, is 67 ft. high and no less than 342 tons in weight. Cromlechs also are very common, some of rectangular forms. The great alignments near Carnac, are the most celebrated megalithic monuments in the world.

In ancient times B., under the name of Armorica, was the centre of the confederated Armorican tribes, who were of Celtic origin. Later, it was known as Provincia Lugdunensis Tertia, but it never was more than nominally under Roman sway. Already entirely liberated in the 4th cent., it became divided into several allied republican states, which afterward passed into petty monarchies. The Franks called its inhabitants [illegible] the population Bretons; the Latin writers, since the 5th cent., Britanni and Brittones; while the country was called Britannia Cismarina, also later Britannia Minor, to distinguish it from the island of Britain across the channel and to mark the original identity in the populations of the two. B. became subject to the Franks in the reign of Charlemagne, and was handed over by Charles the Simple to the Northmen, in the 10th cent. After fierce struggles the Bretons at length acknowledged the suzerainty of the Norman dukes. Geoffrey, Count of Rennes, was the first to assume the title of Duke of Brittany, in 992. The duchy of B. was incorporated with France in 1532 by Francis I., to whom it had come by marriage; and subsequently it shared in the general fortunes of the kingdom. Its local parliament at Rennes was of course merely its supreme court, and it never played [illegible] a political role. At the outbreak of the Revolution, all the towns, and even some of the larger communities as well as the coast villages, embraced the new ideas, but the country-people

BRITTANY.—2.

mostly followed the lead of their curés and landlords, and remained intensely loyal to the ancient royal house. B. accordingly became the arena of a long and bloody struggle against dominant republicanism, its Chouans almost rivalling the Vendéans in the heroic stubbornness of their opposition to the Revolution; but it must be remembered that the revolt against the new ideas was at no time general as it was in Vendée. It was still smouldering so late as 1832, when there was an outbreak of popular feeling in favor of the elder Bourbons. B. has given many great men to France; Abelard, Duguesclin, the Connétable de Richemont, Jacques Cartier, Michel Colomb, Dom Lobineau, Duclos, Surcouf, Broussais, Laënnec, Jules Lapre, Duguay Trouin, Kératry, Maupertuis, Chateaubriand, Lamennais, Jules Simon, and Renan, not to mention countless seamen and admirals. See Daru, Histoire de Bretagne (3 vols. 1826); Le Saint, La Bretagne Ancienne et Moderne (2d ed. Limoges, 1879); Loth, L'Émigration Bretonne en Armorique (1883); Joanne, Bretagne (1881); and Dean Church's essay (1846), reprinted in the first volume of his Miscellanies (1888).

Language and Literature. The Breton (*Brezonek, Brezounek*; Fr. *Bas Breton*), the ancient language of B., still called sometimes Armorican, to distinguish it from insular Breton, is one of those small Celtic tongues which have continued to be spoken languages down to the present time. It forms, together with Welsh in Wales, the but recently extinct Cornish in Cornwall, and that language known from a number of inscriptions to have been the tongue spoken by the ancient Gauls, the Cymric or s. group of the Celtic languages. It is at the present day spoken chiefly in the department of Finistère and the w. parts of Côtes-du-Nord, and in Morbihan, and is still, according to the careful calculations of M. Paul Sébillot in La Revue d'Ethnographie for 1886, Jan., the ordinary language of about 1,322,000 persons, of whom no fewer than 679,500 know that language alone. The paper referred to contains maps showing village by village the existing limits of Breton and French. M. Sébillot estimates that by the close of the present century there will be no more than 100,000 persons ignorant of French, without, however, the Breton ceasing to be the 'vernacula lingua' of almost all the actual Breton country. Breton has four dialects: that of Vannes (*Vannetais*), of Quimper (*Cornouaillais*), of Tréguier (*Trecorrois* or *Tregorrois*), and of St. Pol-de-Léon (*Léonais*), of which the last is the most important. The dialect of Léon is the purest of the four, although the narrowest in its geographical extent, while the Cornouaillais is the widest, and next to it the Vannetais. These dialects indeed follow very nearly the limits of the ancient dioceses. Breton is most closely allied to Cornish and next to Welsh, but it surpasses both these tongues in the refinement of its grammatical forms and words. Most competent scholars consider it as having been carried across the channel from England in the settlement made in the 5th cent. See Rhys, Lectures on Welsh Philology (2d ed. 1879), and Belloguet, Ethnogénie Gauloise (4 vols. 1858-75). The greatest service to the grammar and lexicography of the language has been done by Pater Grégoire of Rostrenen, Le Pelletier, and especially Le Gonidec (died 1838). The last wrote the best grammar (Paris, 1807; 2d ed. 1850), as well as an excellent lexicon (Angoulême, 1821; St. Brieuc, 2 vols. 1847-50). Many valuable papers on questions of Breton philology have been contributed to the Revue Celtique, which was commenced by H. Gaidoz at Paris in 1870, by Gaidoz, Ad. Pictet, Dr Stokes, Prof. Rhys, D'Arbois de Jubainville, Le Men, Sauvé, Luzel, and other scholars. At the present day Breton philology is brilliantly represented by two young scholars, Bretons both by birth and tongue, M. Loth, professor at Rennes, and M. Ernault, professor at Poitiers. At the instigation of M. Loth, and mainly under his editorship, the Faculté des Lettres at Rennes has published since 1886 a review, Les Annales de Bretagne, devoted in great part to Breton [illegible]. See also Whitley Stokes, Middle Breton Hours, with translation and glossary (Calcutta 1876), and his Old Breton Glosses (Calcutta 1879 and 1880).

The Breton literature of the earliest period (since the 6th cent.) is grouped together with the Cymric literature of the British isles. Many of the oldest and most famous of the bards, as Gwenchlan, Taliessin, Sulio, belonged probably to B., and their strong and spirited poetry, partly of a pagan and historical, [illegible] may have had considerable influence on the work of the French trouvères of the succeeding centuries. We need only allude to the Arthurian cycle of legend, worked up with such poetic wealth and variety of form by the medieval poets. The oldest monuments of old Breton are two miracle plays, a prayer book or 'Hours,' a dictionary, and the cartularies of two monasteries. Of the plays, the first is founded on the life of St. Nonna or Nonita, and exists in a manuscript ascribed by Zeuss to the 14th cent. It was chiefly from this source, together with the two cartularies of the monasteries at Rhedon and Landevin, alluded to above, that Zeuss drew the materials for the Armorican part of his famous Grammatica Celtica. It was published in 1837 under the title of Buhez Santez Nonn, but a much better edition was given by M. Ernault in vol. viii. of the Revue Celtique. The second play, the Burzud braz Jezuz, the great miracle or mystery of Jesus, was edited by Hersart de la Villemarqué in 1865, with a translation. It should, however, be added that this mystery has since been shown to be a translation from the French. As in course of time the French speech and culture spread over the country, and became the more familiar form for literary expression, the Breton struck root all the deeper into the affections of the common people, by becoming the chosen medium alone for the expression of their homely proverb, song, and story. Although it gradually ceased to be used for formal literary composition, Breton continued for centuries to be the medium through which the manuals of piety supplied by the church reached the faithful. The primitive manner of life preserved the conditions necessary not only for the transmission, but the creation of the folk-tale and the ballad, and genuine examples of these have continued to be produced by the free working of the popular imagination almost down to our own time. The extraordinary wealth of Breton popular literature was first revealed to the world, although under a somewhat fictitious garb, by La Villemarqué. His Barzaz Breiz (1839; Englished by Tom Taylor in 1865), professed to be the fruit of many years collecting in every part of lower B., but unfortunately it cannot be accepted as a genuine undoctored product of the popular imagination in the proper and scientific sense. It consisted of *gwerziou* (plural of *gwerz*), heroic or mythological ballads, many of which are short, but some has many as 600 verses; *soniou*, (plural of *sonn*, or *sône*), love and festive songs, and religious poems; and was accompanied with translations and notes, and the original airs noted in the sixth edition (1867), some of which had, however, been given already in the first edition. Other volumes of poetry in the Breton language were Luzel's Bepred Breizad ('always Breton'), consisting of original verse (Morlaix, 1865), and a fine collection under his editorship of genuine gwerziou or popular ballads chiefly in the dialect of Treguier, Gwerziou Breiz Izel (2 vols. 1874). M. Luzel, who is one of the most intelligent no less than patriotic representatives of 'Bretagne bretonnante' now living, as well as one of the most profoundly learned and scientific folklorists of France, is at present preparing a great collection of soniou. The legends of B. were worked up with fine effect by Émile Souvestre in his Foyer Breton (1844), and to their rare literary charm we owe some of the finest passages in the pages of George Sand and Renan. Since the 16th cent., as has already been said, the native clergy have used the Breton speech for the composition of religious plays and hymns, as well as sermons and books of edification and instruction. At the present day there still appear one or two almanacs in Breton, some of which, however, are bilingual; while the journals issued in B. publish from time to time articles in the native language, and at election times there is a plentiful crop of Breton placards and posters; but it cannot be said that the Breton is now a cultivated language other than accidentally. The weekly journal Feiz ha Breiz ('Faith and B.'), which had a predominantly religious character, died at Quimper after 19 years' existence, 1884, Apr. 26. There yet waited in upper B. an ample harvest of folklore, no less than song and story, for the most learned and indefatigable of its editors, M. Paul Sébillot, the chief of whose collections are his Contes Populaires de la Haute Bretagne (three series, 1880-2), Littérature Orale de la Haute Bretagne (1881), Traditions et Superstitions de la Haute Bretagne (two vols., 1882), Contes de Terre et de Mer, Légendes de la Haute Bretagne (1883), and Coutumes Populaires de la Haute Bretagne (1886). And from La Villemarqué's own ground, lower B., M. Luzel has given the world the rich gleanings of years in Légendes Chrétiennes de la Basse Bretagne (two vols. 1881) and Contes Populaires de la Basse Bretagne (three vols. 1887), two invaluable collections. There is also a good collection of Breton proverbs, 'Lavarou Koz,' by L. F. Sauvé (1878). See a fine paper by Henri Gaidoz on 'La Poésie Bretonne pendant la guerre de 1870-1,' in the Revue des Deux Mondes for 1872 (Dec. 15), and for other books and papers the 'Bibliographie des Traditions et de la Littérature Populaire de la Bretagne,' by H. Gaidoz and Paul Sébillot, in vol. v. of the Revue Celtique.

BUENOS AYRES, *bō'-nūs-ā'-rīz*, (*Buenos Aires*): the largest and most important province of the Argentine Republic in South America, extending along the Atlantic, from the mouth of the Plata to that of the Rio Negro on the 41st parallel. On the n.e. it is washed by the Plata and the Paraná, the latter separating it from the province of Entre Rios. Its area is estimated at 63,000 sq. m., about equal to that of Scotland and Ireland combined: the Indian territory on the w. and s. being included apparently, more or less, in other estimates, the number of sq. m. is sometimes stated as 80,000, and even much more. It has a population of (1885) 648,140, estimated in 1888 at 800,000. With a much larger area it was originally an appendage of Peru, and became in 1775 a separate viceroyalty of itself. 'The United Provinces of the Plata' continued down to 1853 to recognize the city of B. A. as their head; and after the constitution of the republic, the inland states endeavored both by war and diplomacy to reannex the maritime province. Their object was attained in 1860, and the city remained capital of the province and temporary capital of the confederation until it was federalized in 1880, the seat of the provincial government being removed to La Plata, 30 m. to the s.e., in 1884. The province is divided into 80 departments, and returns 16 of the 86 members of congress, the city sending 9 more. The public debt of the province amounted in 1887 to $66,671,770. The budget for 1887 showed a revenue of $7,265,000, and an expenditure of $7,176,073.

The country approaches so nearly to a plain, with only two ranges of hills, 660-3,830 ft. high, that most of the rain which falls is either absorbed or evaporated, or lost in salt lakes, comparatively little drainage entering the Paraná or the Plata; the largest rivers, the Salado (360 m.), and the Negro (630) and Colorado (700) in the s., empty into the Atlantic. The climate, though on the whole healthy and agreeable, is yet by no means steady or uniform. Every wind, in general, has, to a remarkable degree, its own weather—sultriness coming from the n., freshness from the s., moisture from the e., and the dry and piercing pampero winds from the w.; and besides the periodical heats of every summer, successive years of more than ordinary drought occur. The rainfall ranges from 19 in. at Bahia Blanca to 38 at Matanzas; snow falls only in the far s., though thin ice is occasionally seen, the temperature ranging from 24° to 108° Fahr. Agriculture, properly so called, is followed chiefly in the more temperate and humid districts of the e. coast, and in those to the w. and s.w. of the capital, where most of the Scottish and Irish immigrants have settled; there were about 1,250,000 acres under cultivation in 1885, and land has lately greatly increased in value. The interior presents almost uninterrupted pasturage to countless herds of horses and cattle, and the business of grazing occupies or interests the great bulk of the population; but the droughts that affect the high n. camps, as well as the frequent inundations to which the low lying s. camps are exposed, are often more destructive to the herds than the not infrequent plague of locusts is to the crops. The natives, addicted to horseback riding, prefer cattle raising to tilling the soil. Some of the cattle-farms, of great extent, are owned by natives, others by British settlers. The stock, formerly sacrificed for the hides alone, is now utilized in every way. Beef and a native tea is the chief diet of the natives. There is an average of 6 horses, 20 cows, and 200 sheep to every inhabitant. The number of sheep in 1885 was estimated to be 45,500,000, cared for by 30,000 shepherds. Maize is the principal cereal; wheat thrives in the s. parts of the province; the peach, grape, fig, orange, and olive have been introduced with success.

The coast line (740 m., with about 150 m. on the Paraná) is low and sandy, and the ports of the province are very few. The harbor of Buenos Ayres is bad, that of newly founded La Plata is good. Agricultural colonies are encouraged by law, and the farm lots are capital, where towns did not already exist, and here farm lots were to be marked out at a very low cost. The annual immigration into Buenos Ayres averaged only 40,000 for the 12 years preceding 1882; but since then it has greatly increased and in 1885 exceeded 108,000 (60 per cent. Italian, 15 per cent. Spanish), although a proportion of the immigrants doubtless went on to the agricultural colonies of Santa Fé and Entre Rios. Several railways, with about 1,300 m. of road, traverse Buenos Ayres, and over the less populous routes about 70 lines of stage coaches run. There are 8,000 m. of telegraph wires in the province. Besides those mentioned, the only town of any importance is San Nicolas, on the Paraná, with a population of over 10,000. See Mulhall's Handbook of the River Plate Republics, 5th ed. 1885.

BULGARIA, *bŭl-gā'rĭ-a*: a principality in the Balkan Peninsula (q.v.), lying between the Danube and the Balkans, was created by the treaty of Berlin, 1878, July 13, as "an autonomous and tributary principality under the suzerainty of His Imperial Majesty, the Sultan." The area of B. is 24,360 sq. m.; that of e. Roumelia, 13,500: together nearly equal to two-thirds of the area of England (without Wales). The n. of B. is fertile plains and hilly country; the s. is wooded and mountainous. A fine water-way as her n. boundary and an outlet to the Black Sea, a seaboard, a mild climate, a purely agricultural country capable of great development and of maintaining five times the present population, free institutions and about the most liberal constitution in Europe, a peasantry possessing the solid qualities and persevering industry of northern races: with these elements for her economic development her right to a national existence cannot be disputed.

The census taken in 1881 showed a total population of 3,154,375, 1,605,389 males, 1,548,986 females, of whom 75 per cent. were Christian Bulgars, 20 per cent. Mohammedan, and 2 per cent. Greeks, and the remainder Russians, Serbs, Roumanians, Gypsies and others. Since 1850, zealous efforts by American missionaries have forwarded education, but made few converts. The Robert College at Constantinople has educated many Bulgarians in English and American political ideas. Grouped according to language, 67 per cent. were Bulgarians, 26.26 per cent. Turks, 2.44 per cent. Wallachians, 1.87 per cent. Tsigans (Gypsies), and the remainder chiefly Greeks, Jews, and Tartars. Sofia (q.v.) is the capital; the other principal towns being Varna, Shumla, Rustchuk, Widin, Razgrad, Sistova, Tirnova, and Plevna. The populations in the towns have greatly diminished since the Russo-Turkish war, owing to the emigration of the Musselmans (chiefly to Asia Minor) in order to avoid military service; and the same may be said of e. Roumelia. It has been stated that 200,000 Musselmans have thus emigrated from B. alone. Farther w. the emigration has been more pronounced. For example, Widin, which before the war had 30,000 inhabitants, in 1881 had only 13,714. Their departure has been a gain to the native population, for their lands have been sold at a nominal price to the peasantry, and the commercial traffic (chiefly with Austria) has nearly doubled in value.

EASTERN ROUMELIA, now incorporated with Bulgaria, is, in many respects, in advance of the sister country; it has much longer been open to European influences, connected as it is with Constantinople and the s., by the valley of the Maritza. E. R. obtained administrative autonomy by the treaty of Berlin.

The physical aspects of the country are very varied, the surface in the w. being broken up by the offshoots of the Albanian ranges, and in the n. and n.e. by the Balkans and their spurs. According to the latest statistical returns, 1,633,000 acres of land were under tillage. The principal exports are cereals, and the imports live stock; but there are important woolen manufactures, and the growth of the vine and tobacco receives considerable attention. One of the most thriving branches of native industry is the production of attar of roses, in the sheltered villages s. of the Balkans; the value of attar exported in 1888 was $525,000, and the industry has since been developed in other districts. The census of 1880 gives the total population of the province at 975,030, composed of the following: Christian Bulgarians, 681,734; Turks and Moslem Bulgarians, 200,498; Greeks, 53,028; Gypsies, 27,190; Jews, 6,982; Armenians, 1,865; foreigners, 3,733. These figures show the preponderating numbers of the Bulgarians. Philippopolis (q.v.) is the capital.

In the first two years of the autonomy, the nationalities, as might have been expected, were in constant conflict, but the Bulgarians had no difficulty in obtaining the upper hand. Both parties of the government equally desired the union of the two Bulgarias; but it was the unionists (nationalists) who, in the summer of 1884, organised the petition for incorporation with the principality.

The Bulgarians in general are of smaller stature than their neighbors, the Servians, but they are powerfully built, and carry a firm head on their shoulders. The physique is distinctly different from that of pure Slavs; the features, however, show some traces of the original. Without possessing the vivacity of the Roumanian, or the *esprit* of the Servian, the Bulgarian has no less a share of intelligence. The typical Bulgarian is a peaceful peasant, laborious and sensible, a good husband and a good father, loving the comforts of home, and practising the domestic virtues. Education has been very zealously and steadily promoted. There were only a few private schools in 1878; in 1890 there were [illegible] public schools with 129,777 boy and 42,206 girl pupils and about 5,000 teachers.

The Bulgarians extend far beyond the boundaries of the two Bulgarian states. In a great part of Macedonia they constitute the bulk of the people; in Bessarabia they are numerous; and in the Banat they number some 25,000, all Catholics. The Bulgarian authorities state the total number of Bulgarians at 6,000,000, or even 7,000,000; most others compute them to amount to about 5,000,000. They are very numerous in Constantinople.

Bulgaria possesses one of the freest and most democratic constitutions in Europe, which, like that of E. R., seems to be modelled on the lines of the Belgian constitution, except there is no second chamber, and election of the sobranje or national assembly is by universal suffrage. The monarchy is 'hereditary,' and under the sovereignty of the porte. Military service is obligatory. The army of B. (with E. R.) contained in 1890 about 30,800 men and officers on a peace footing, while the war strength is 125,000. The fleet comprises 3 ships of war, 10 armed gun sloops, 2 torpedo boats, and some other small craft. The budget for 1891 was estimated at $16,095,740 revenue, and $15,889,846 expenditure.

Commerce and Production. About one-fourth of the entire area of B. is under cultivation, four-fifths of the land cultivated being in wheat. The following table will show the value of the foreign trade of B. in 1889:

Countries.	Imports.	Exports.
Turkey	$1,955,600	$6,111,200
Great Britain	4,238,600	2,519,000
Austria Hungary	4,498,400	711,600
France	689,800	3,678,000
Roumania	467,800	318,200
Germany	782,200	246,800
Russia	906,400	17,000
Italy	217,000	329,400
Belgium	393,000	244,800
Other Countries	425,000	1,940,200
Total in 1889	$14,573,800	$16,116,200
" " 1888	$13,272,400	$12,839,800

Wheat is the chief export. The grain export from S. B. alone in 1888 was estimated at $2,450,000 and of attar of roses at $525,000. The other exports are dairy products, wool, skins, and prunes. The chief imports are cotton, iron, timber, salt, sugar, wine and spirits, and petroleum. In 1888 256 vessels, principally Austrian, aggregating [illegible] tons, entered the port of Varna, and 255, of [illegible] tons, cleared; at Bourgas 553 of [illegible] tons entered, and the same number cleared.

Railroads, Telegraphs, and Post Offices. There were 507 m. of railroad in operation in 1890, connecting with the European system through Servia and the Turkish lines. The new line 68 m. from Jamboli to Bourgas was opened 1890, May 26. Lines between Tirnova and Kustchuk [illegible] kilometres, and between Roman and Tirnova 175 kilometres are expected to be completed 1894 May 1. In 1889 there were 136 telegraph offices, with [illegible] m. of line and 4,222 m. of wire, all belonging to the government; the total number of messages sent was [illegible], receipts [illegible]. The post offices in 1889 numbered 116. Letters, papers, postal cards and other articles to the number of [illegible] were sent; receipts [illegible], expenses, $453,912.

The income is derived mainly from direct taxes yielding $7,776,000, and customs and excise duties amounting to [illegible]. Military expenses are estimated at [illegible]; Department of the Interior, [illegible]; the public debt, [illegible]; public instruction, [illegible]; finance and administration, [illegible]. The public debt consists of a loan of [illegible] contracted in 1888, and [illegible] as the cost of Russian occupation, to be paid in [illegible]. B. has also contracted to pay about [illegible] as the Eastern Roumanian contribution.

The revenue is generally underestimated as proven by the twelve budgets since B. has had a separate government; there has been a nominal deficit, but in every case the receipts have equalled or exceeded the expenditures.

History. The country now known as B. was originally inhabited by Thracians, and under the Romans formed the province of

Mœsia. Wasted by Goths and Huns, it was afterward overrun and occupied by the Slavonic Slovenians. The Bulgars were originally an Ural-Altaic people. Coming from the banks of the Volga (where Bolgary was their capital), they first crossed the Danube in the 6th cent., and occupied the e. portion of the peninsula. Though probably fewer in number, they rapidly subjected their Slav predecessors, adopted their language and customs, and, at once absorbing and being absorbed, became a great Slav power. In 864 their prince, Boris, was baptised, and the Bulgarians became dependent on the patriarchate of Constantinople. During the 9th and 10th cents. the Bulgarians were victorious in their wars against the Magyars in the n. and the Greeks s., in the s. and had reached the height of their power. Their prince, Simeon, assumed the title of 'Autocrat or Czar of all the Bulgarians and of the Greeks.' They dominated the greater part of the peninsula, including Macedonia, Thessaly, Epirus and Albania. The Bulgarian archbishop was made an independent patriarch, and the Serbs and even the Byzantines paid Simeon tribute. It is interesting to note in reference to the Bulgarian ascendency that, already in [illegible], their czar, Shishman, whose power ranged over the whole peninsula, conceived the idea of a state founded on the unity of race, and caused himself to be styled 'Emperor of the Slavs.' In 963 the w. part of B. broke loose from the e. to form a new kingdom, and so weakened the Bulgarians in their constant rivalry with the Byzantine emperors. The bloody wars continued; in the end of the 10th cent. part of Eastern Bulgaria was incorporated with the Byzantine empire, and in 1018 the w. Bulgarian kingdom became a Byzantine province. A third Bulgarian kingdom was formed in 1186 by a successful rebellion, and maintained itself against the emperors of Constantinople until the arrival of the Osmanli Turks. The Greeks, who feared and hated them, attributed such shameful vices to their persistent enemies, that the name of Bulgarian came in most European tongues to be the most odious of epithets. (For the Bogomili [illegible] of the 12th cent., see Bogomili.) In [illegible] B. and her ally, Servia, pressed to the walls of Constantinople, and only failed in the establishment of a great Slav state by the reason of defectiveness of their administrative organization. The Servians finally succumbed at the decisive battle of Kossovo in 1389, and Tirnova, the Bulgarian capital, was taken four years later by the son of Bajazet. From that time the Ottoman power commenced to dominate. B., under the influence of Byzantium and of Christianity, had attained in the middle ages to a degree of civilization equal to that of western nations; but the invasions first of the Tatars, and subsequently of the Osmanli, entirely destroyed it, and the ancient warlike character of the race seemed to have been lost forever, though rebellions took place from time to time. The first national awakening dates from the year 1762, when the monk Paisios, then at Mt. Athos, wrote the national chronicles and revived memories of ancient glory. A new national literature began; the first Bulgarian school was opened in 1835, and was followed by others. A newspaper appeared in 1844. The Crimean war stirred up Slavonic sympathies which Russia has sedulously and systematically cherished. In 1872 the Bulgarian church also, by a firman, became again independent of the hated supremacy of the Greek patriarch.

During the troubles in Bosnia and Herzegovina in 1875, excitement in B. spread, and two or three ill-organized local risings in 1876 were severely repressed by Turkish troops. The unconcealed aspirations of the Christians provoked the suspicions and fears of the Moslems, and the Turkish inhabitants of B. rose against their unarmed Christian neighbors, assisted by their ferocious Bashi-bazouks, or irregular troops. In the provinces of Philippopolis and Tirnova 58 villages had been destroyed, and 12,000 men, women, and children brutally slain. The 'Bulgarian atrocities' awakened horror throughout Europe, especially in England; and a conference at Constantinople proposed to the porte the organization of two autonomous provinces. The porte refused to make concessions. Russia, in its assumed capacity as protector of the Slavic races of Turkey, declared war [illegible]. By the treaty of San Stefano, the victorious Russians (1878, Mar. 3) proposed to constitute a Bulgarian state within the limits of the Bulgarian exarchate, extending from the Danube across Macedonia to the Ægean; but the dissatisfaction of Austria and Britain with these proposals ultimately led to the Berlin congress; and the Berlin treaty (1878, July 13) constituted an autonomous Turkish tributary, B. n. of the Balkans, while to the mainly Bulgarian provinces [illegible] of them, that of E. R. (q.v.), it granted administrative autonomy. The prince of B., freely elected by the people, must be confirmed by the porte with the assent of the powers. The first choice of the Bulgarians was Prince Alexander of Battenberg, a cousin of the Grand-duke of Hesse, who in 1879 became Alexander I. of B. In the autumn of 1885, the outbreak of a revolution in E. R., and Prince Alexander's acceptance of its union to B., provoked the jealousy of Servia; and Nov. 14 King Milan invaded B., anticipating an easy march to Sofia. In the fourteen days' war which ensued, the Bulgarians suffered temporary defeat, till, by his gallantry and generalship at Slivnitza, Prince Alexander turned the tide of fortune, and driving the Servians back through the Dragoman pass, entered Servian territory at the head of 50,000 men, and captured Pirot. In 1886, March, peace was concluded between Servia and B.; and Prince Alexander was ultimately recognized by the porte as governor-general of E. R. The prince, originally regarded as too Russian in his sympathies, had become the centre of Bulgarian national aspirations, and the darling of the people. At the same time he fell more and more into disfavor with Russia and the czar. In the summer of 1886 he was kidnaped by Russian partisans and carried into Russia. Returning immediately, he received an enthusiastic reception, but owing to the hostility of Russia, he felt himself compelled to abdicate. A provisional government was formed, and firmly maintained the national cause in defiance of very strong Russian pressure. In the summer of 1887 Prince Ferdinand of Saxe-Coburg, against the will of the great powers, especially of Russia, accepted an invitation by the regency to fill the vacant throne.

It is impossible to pass over without a word the name of Stambuloff, who since Prince Ferdinand's accession, has been the real ruler of B., and the haughty opponent of Russia's patronage. He has hesitated at nothing in foiling the intrigues of Russia. It is to be remarked that since the abdication of Alexander of Battenberg, Russia has affected to regard the Bulgarian government as wholly illegal and has thus been able to foment revolutionary movements without having to shoulder the responsibility. The Panitza conspiracy was the most serious of these, but owing to Stambuloff's energy it failed, and Panitza was shot. In the last weeks of 1890 the expulsion from B. of Chadourne, a mongrel French newspaper man, has been made by France the excuse to assume a threatening attitude to B., and this incident may be the match applied to the magazine which will produce the dreaded explosion.

Language and Literature.—The original Bulgarian was, of course, an Ural-Altaic or Ugrian language, but it has left only a few traces in the Slavonic speech adopted by the Bulgarians who settled in the Balkan peninsula. The old Bulgarian Slavonic tongue is closely allied to the [illegible], but some Servian, Greek, Rumanic, Albanian, and Turkish elements have found their way into the language. The literature of the [illegible] consisted chiefly of translations from the Greek and theological works. The modern literature (since 1762) is chiefly educational, and popular, and political. The poems of Slaveikov, the novels of Karavelov, the historical works of Drinov, deserve notice; there is also a rich lyrical popular poetry. The Cyrillic alphabet is that generally used, as in Russian, namely, that modified out of the Greek by Cyril (q.v.). See Dozon, Chansons Bulgares (1875); Rosen, Bulgarische Volksdichtung (1879); the grammar and dictionary [illegible] by Morse and Vassilief (Constant., 1859-60); and for an article on the literature, the Westminster Review for 1875 (on B.); the history by Jireček (Prague 1876; German trans. 1876); the German work of Kanitz (2d ed. 1880); Barkley's Bulgaria Before the War (1877); Minchin, Bulgaria Since the War (1880); Samuelson, Bulgaria Past and Present (1888); and the works quoted in BALKAN PENINSULA.

BURGUNDY, *bėr'gŭn-dĭ*: once an independent kingdom of wide extent, and later a French province (Fr. *Bourgogne*). The ancient Burgundians (*Burgundii* or *Burgundiones*) were originally a German tribe settled on the banks of the Oder and the Vistula, who afterward extended themselves to the Rhine and the Neckar, and in 406 penetrated into Roman Gaul. In 436 they sustained a defeat from the Huns, and placed themselves under the supremacy of the Romans, by whom they were settled in the modern Savoy. From their seat there they extended their dominion in the confusion attendant on the downfall of the Roman empire till it embraced nearly the whole Rhone valley, with the exception of Provence. Their conversion to Christianity took place in the course of eight days! They adopted a brief Arian confession of faith, and were baptized. The Burgundian kingdom was, however, unable to maintain itself against the Franks, and in 534 it was conquered by that people.

The weak government of the later Carlovingian kings allowed B. once more to assert an independent existence under Boso of Vienne in 879. Boso's realm, known as Cisjuran B., or, from its capital, the kingdom of Arelate (Arles), lay mainly in the basin of the Rhone. A second Burgundian state arose about the same time in the country between the Saone and the Reuss, and was known as Transjuran or upper B. These states, united in 930, were for a time powerful and famous, but in 1038, on the extinction of the royal dynasty, B. became part of the German empire, and continued to form a part of it for nearly three centuries. It was afterward broken into several fragments, nearly all of which were gradually absorbed by France.

In mediæval times the name of B. is better known as associated with the dukedom founded by Richard, Count of Autun, a brother of the Boso above mentioned. The nucleus of the dukedom was in lower B., the region which afterward became the French province of B., to the n. and w. of the other Burgundian realms. Its brilliant period began when John of France in 1363 conferred the dukedom on his son Philip the Bold. By his marriage with Margaret, heiress of the Count of Flanders, Philip added to his dukedom a great part of the low countries, and was appointed regent of France during the insanity of Charles VI of France. The quarrels of the rival dukes of B. and Orleans at this period, and during the English invasions of Henry V., made a great noise in France, and were most fatal to its prosperity. In 1435 these feuds were arranged by the treaty of Arras, which led to a great increase in the possessions of B. Charles the Bold (1467-77) was one of the most powerful princes in Christendom, and had a gorgeous court. The possession of the flourishing cities of Flanders made him the wealthiest monarch of Europe, and by this time the house of B. had acquired almost the entire Netherlands. His power was shattered by the victories of the Swiss at Granson and Murten, and he was slain at Nancy (1477). After that B. no longer played a great rôle as an independent state. Louis XI of France as overlord appropriated the dukedom. Mary, daughter and heiress of Charles, marrying Maximilian of Austria, transferred to that house the rest of her dominions, and they passed to Maximilian's grandson, the emperor Charles V. The final result was, that the dominions of B. properly so-called were incorporated with France, while its possessions in the low countries remained with the house of Hapsburg. The portion of B. that fell to the Hapsburgs, together with the seventeen provinces of the Netherlands, formed from 1512 till the revolution of the Netherlands one of the ten 'circles' of the German empire. Ultimately they went to constitute modern Belgium. See CHARLES THE BOLD: NETHERLANDS, THE: PHILIP THE BOLD: PHILIP THE GOOD.

A later Duke of B. (1682-1712), the grandson of Louis XIV of France, is chiefly known as the pupil of the great Fénelon.

The French province of B., as constituted in 1477, comprised what are now the departments of Ain, Côte-d'Or, Saône-et-Loire, and Yonne, with parts of adjoining departments. Its principal towns were Dijon, Mâcon, Autun, Chalon-sur-Saône, and Beaune. The wines of B. are treated separately. See Dubois, La Bourgogne depuis son Origine (2 vols. 1867).

BURMA, *bėr'-ma:* is the largest of all the provinces of the Indian empire. It stretches from 28° lat., on the confines of Tibet, s. for 1,100 m., to 10° lat., far down the Malay peninsula, and from 105° long., on the Chinese border, for 700 m. w. to the bay of Bengal. It is conterminous with China and Siam on the e.; and for the rest it is bounded by the Indian provinces of Bengal and Assam, and by the ocean. Its total area is about 280,000 sq. m., of which one third belongs to the old province of lower B. and two thirds to the new province of upper B. The country consists of the great basin of the Irawadi and its affluents; the rugged country drained by the Salween and Sittang rivers, on the upper waters of which are situate the Shan states, and the narrow maritime provinces of Arakan and Tenasserim. The deltas of the Irawadi, Salween, Sittang, and Kaladan rivers are flat plains, and there are smaller areas of level land at the mouths and on the banks of some of the feeders of the Irawadi. The level cultivable plains probably do not exceed 30,000 sq. m. in all. The rest of B. is hilly broken country, covered for the most part with forest. There are large highland tracts, with a ruling elevation of 2,000 to 4,000 ft. The principal hill ranges are the Patkoi mountains in the n., which reach at one point a height of 12,000 ft., and from which outliers jut far down into the valleys of the Irawadi and the Chindwin; the China hills in the n.e., culminating in perpetual snow peaks 15,000 ft. high, close to the Chinese city of Talifoo; the Arakan Yoma range, running from Bengal to Cape Negrais; the Pegu Yoma range, separating the Sittang valley from the basin of the Irawadi; the Tenasserim range, running from the Salween river to the foot of the Malay peninsula; and lastly, the Shan states, a vast upland, cleft by deep chasms, in which flow the Salween and the Cambodia rivers and their feeders. The chief river of B. is the Irawadi, with a course of probably 1,100 m. from its unknown source in the snows of Tibet down to the bay of Bengal. This great stream is navigable all the year round by river steamers, which, with their flats, carry 1,000 tons of cargo and hundreds of passengers up to Bhamo, 700 m. from the sea, and 50 m. from the Chinese border. Some hundreds of miles of deltaic channels of the Irawadi are also navigable by large river steamers. Of the affluents of the Irawadi only the Chindwin, the Shweli, and the Myitnge are navigable by large craft. The Chindwin is navigable for 300 m. in the rainy, and 150 m. in the dry season. The Salween river, which has its origin in the Tibet snows, is navigable for only about 80 m. from the sea. The Sittang river rises in the hills to the s.e. of Mandalay. All these rivers and many of their feeders are traversed in the rainy season by tens of thousands of native barges and boats, which carry cargoes up to 120 tons. The rivers are the chief, and were until British occupation, the only highways of the country. During the dry season all the rivers, except the very largest and the tidal channels, are too low for navigation; and therefore, until recently, no movement of heavy goods for any distance could take place from Dec. to July over the greater part of the country. During the flood season the B. rivers top their banks. The Irawadi at Prome, 200 m. from the sea, is about a mile wide, and there the difference between the highest and lowest level of the river is 45 ft. During the great floods the river water spreads over the country; and sometimes the flood waters of the Irawadi submerge the country for 10 or 15 m. on either side to a depth of 4 to 14 ft. The inundated villages, however, do not suffer, as the houses are all built on piles and the flood waters move slowly.

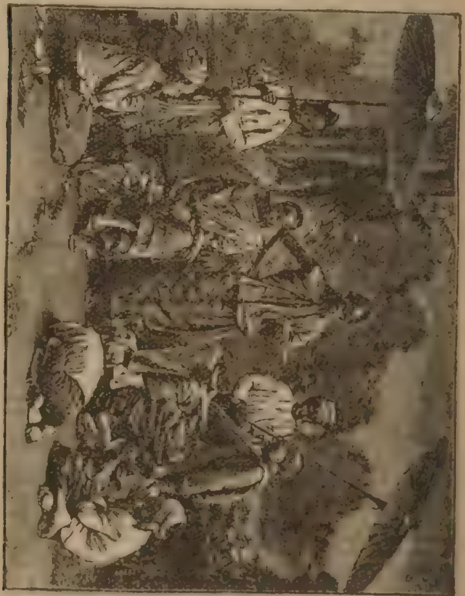
Climate and Rainfall.—The rainfall varies widely in different parts of B. Along the coast from Akyab to Mergui, the average rainfall exceeds 200 in. a year at each of the six registering stations. At Bassein, Rangoon, and Pegu, a little way inland, it averages 100 in. Up the Irawadi valley the rainfall decreases rapidly: at Prome it is 42 in., and at Thayetmyo only [illegible] in. Information about the rainfall of upper B. is as yet meagre. Apparently there is a dry belt with less than 30 in. of rain per annum from Thayetmyo to Myingyan; at Mandalay, where the hills approach the river, the rainfall is about 35 in. a year; it [illegible] increases to [illegible] at [illegible], and perhaps to 80 at Bhamo. On the upper Chindwin, on the [illegible] hills [illegible] parts, on the Shan hills and in the [illegible] valleys of the Salween and Sittang the rainfall is heavy. In the delta and along the coast the rainy season lasts for five or six [illegible]. During these months the climate is very moist, but the heat is not excessive. From the middle of Nov. to the end of Jan. the [illegible] season, and the thermometer at dawn sometimes [illegible]. From Feb. to the end of April the climate of the delta is dry and hot, and the thermometer occasionally reaches 100° in the shade; but the nights are always cool, and there is never any hot wind as in India. Higher up the Irawadi valley at Prome, Thayetmyo, and in the dry belt, the climate is much hotter and dryer in the summer, and it is much cooler in the winter months. At Mandalay and Bhamo the months of Dec. and Jan. are cooler still; at Mandalay and over the dry belt, the dust and glare are sometimes excessive in April and May. On the Ruby mines plateau, at an elevation of 5,000 ft., the thermometer in the shade does not exceed 86° in the hottest season; in this neighborhood an attempt is being made to found a sanatorium for European troops. The climate of B. is more trying to Europeans than that of the plains of India.

Flora and Fauna.—The forests of B. contain an abundance of useful and beautiful trees. The most important and valuable tree is the Teak (*Tectona grandis*). Teak trees, as well as trees of other kinds, are seen 15 to 25 ft. in girth, and 90 or 120 ft. from the ground to the lowest branch. The most beautiful and not the least useful of the products of the B. forests is the bamboo. Different species from the slender bamboo used for arrows, up to the giant bamboo 9 in. thick and 100 ft. high, are employed for manifold purposes (see BAMBOO). Several B. trees produce valuable wood-oil, varnish, tannin and gums; and many creepers yield valuable fibres. There are rubber-yielding creepers besides the *Ficus elastica*; and cutch, obtained from the *Acacia catechu*, is a most valuable gum. Orchids, ferns and mosses of much beauty are found in abundance. Ground flowers are comparatively few; but a B. forest, particularly in the month of March, is quite bright with the many colors, and sweet with the varying scents of thousands of flowering trees, flowering creepers, flowering shrubs and orchids.

Among the wild animals of B. may be mentioned the elephant, three species of rhinoceros, tapir, buffalo, gayal, many kinds of deer, small wild cattle, hog, tiger, leopard, bear, and wild dog. The forests are so vast, and in parts so dense, that the pursuit of wild animals is difficult. Among domestic animals, the buffalo, oxen, elephants, and ponies are all good. No horses are bred, sheep and goats are rare, and donkeys are hardly ever seen. The domestic fowls are better than in India. Pythons and cobras abound; and the hamadryad, the most deadly of the snakes, is occasionally met. The variety of birds is immense; the peacock of B. is larger and more gorgeous than its Indian congener; the argus pheasant, the golden and the silver pheasant, are the most brilliant of the gallinaceous birds; aquatic birds from the pelican and wild goose down to the snipe, abound. The quantity and variety of the fish caught on the coasts and inland waters of B. are prodigious. Alligators are not usually eaten, but every other inhabitant of the the water, from the shark down to the shrimp and sea slug, either fresh or dried and salted, contributes to the food of the Burmese. Among the rarer delicacies furnished by marine creatures may be named the edible birds' nests found in the caves of the Mergui archipelago, and the eggs of the sea turtle. The right to collect these eggs is leased by the state, and a small turtle bank, not one mile long, on an island near one of the mouths of the Irawadi yields a rental of $7,500 a year to the public treasury for turtle eggs only.

Minerals.—The geology of lower B. has been examined by scientific officers of the survey. Gold is found in small quantities by washing river sand; silver is extracted at lead workings in the Shan states, but not in great quantity. Iron, copper, lead, and tin exist in great quantities, but none of these pay for working except tin, which is worked by Chinese settlers in the Mergui district. Attempts to work tin and lead after European methods have failed. Earth-oil or petroleum is found at many points on the Irawadi river and in Arakan. The Irawadi oil is a dark, viscous fluid, yielding only [illegible] per cent of burning oil, while the Arakan oil is a light colored, clear fluid that can be burned in a lamp as it comes from the well. About [illegible] wells in the Irawadi oil region, and [illegible] wells in the Arakan region, are or have been worked. As yet nothing in the shape of a spouting well or of a constant supply has been found. Jade and amber are both found and worked in the country n. of Bhamo, on the feeders of the Chindwin river. The mines are worked by the local tribes under the superintendence of Chinese, and jade is exported to China and Yunnan to a value of some [illegible] a year. Fine white marble is found near Mandalay, and is used for statues of Buddha and for ornamenting pagodas. Coal exists at several places in the Shan states, at Kale on the Chindwin river, and at Thingadaw on the Irawadi.

above Mandalay. All these coal sources are in upper B.: one only, that on the Chindwin river, is being worked for steamer fuel: some of the others were examined in 1887. The coal found as yet in lower B. has proved of poor quality and scanty in quantity. Limestone of good type is found and burned in many parts. Building stones are found in most districts outside the delta: near Mandalay the stone is particularly good. The ruby mines n. of Mandalay yield the best rubies in the world. The ruby yielding area stretches over about [illegible] sq. m. Rubies are found by sinking holes down to the ruby bearing stratum, and then sifting or washing the earth raised therefrom. The mines were worked in rude fashion, and yielded about $500,000 worth of rubies a year. All large stones were royal property, but, in practice, most of the valuable gems were secreted and smuggled away. European machinery and skill have since 1888 been applied to working these mines.



Buddhist Monks, with their Pupils.

Population.—The [illegible] of [illegible] showed the population of lower Burma to be [illegible]; [illegible] was about [illegible]. It is computed that the population of upper Burma, including the Shan States, cannot be less than [illegible]. It may be [illegible]. Probably the whole population of B. may be distributed somewhat thus:

Burmans	5,450,000
Shans	2,000,000
Karens	700,000
Other hill tribes	800,000
Indians, Chinese, Europeans, and others	300,000
Total	9,250,000

The Burmans are a short statured, thick set people; they wear long hair on their heads, but have little hair on their faces. They are flat featured, and nearer the Chinese than the Aryan type. They are excitable and impulsive; fond of fun and laughter; much given to dramas, dances, and shows of all kinds; up to a certain point courageous. They are callous to suffering in others, and ready to commit crimes of violence. Dacoity or robbery with violence by gangs is a common crime among Burmans; the proportion of violent crimes and of convicts to the population is far larger than in any other Indian province. Burmese women are well treated; they go to market, keep shops, and take their full share in social and domestic affairs. Men and women are well clad; they delight in gay colors and in silk attire. Burmese young men and maidens arrange their matrimonial affairs for themselves when they grow up. Women as well as men can procure divorce for good cause. Widows and divorced wives can remarry. Burmans make good peasant farmers, good boatmen, good shop keepers. But they are unmethodical and unpunctual; they do not make good soldiers, or policemen, or factory hands. They are lavish in their expenditure, and seldom hoard money. The general level of prosperity and standard of comfort is high; there are few poor, and no beggars. The wages of unskilled labor may be quoted at $1.28 a week in the delta districts, and at 64 cents in upper B., as compared with 40 cents in continental India. The staple food of the people is rice, which is as cheap as in India. Burmans eat fish or meat daily, and have more liberal diet than Indians of the same class. The existence of ample fertile land, near to good markets and available on payment of a moderate land-tax, explains the high rate of wages. Burmans are Buddhists by religion, and their form of Buddhism is purer than in any other country except Ceylon. There are no large land owners, and there is no aristocracy in the country except the officials. The most influential and respected class are the Buddhist monks, whose function is to set an example of a correct life, and to instruct the young. These monks, of whom there are over 20,000 in the country, strictly observe their vows of celibacy and poverty; but they can unfrock themselves and return to the world when they please. They shave their heads, wear yellow robes, and live in monasteries. They are well cared for by their lay supporters. No monastery or pagoda has any property or endowment.

The Shans resemble the Burmans; but being highlanders, are poorer, hardier, and more courageous. They have a remarkable turn for trading of all kinds. The Karens used to be nature worshippers; they were despised and oppressed by the Burmans among whom they lived. They are less clever, but more persevering and methodical than Burmans. A large number of Karens have embraced Christianity at the teaching of American Baptist missionaries; and now there are over 500 parishes of Christian Karens, containing nearly [illegible] souls; each parish supports its own church, pastor, school and schoolmaster. The Chins live in the uplands between Arakan and the Chindwin river; they make yearly raids upon the peaceful villages on the Kubo and Chindwin valleys. Some Chin settlements are found on the hills of lower B., where they live very poorly. The Kachins inhabit the hills, and dominate the trade routes n. and e. of Bhamo; they used to levy blackmail on caravans to China. They are courageous, and defend their mountain fastnesses well. They command the approach to the jade mines, and the path from the upper Irawadi into the Assam valley. Close under the Assam hills the Chins merge into and are apparently identical with the Singphos. The Palaungs are the wildest of the Shan races; they pluck and send to market wild tea from their hills.

Language.—The Burmese language is monosyllabic; it is written from left to right; the shape of the letters is circular, and most of the letters are perhaps rounded modifications of Sanskrit letters. The grammar is simple; but the language is difficult to acquire perfectly by reason of its many breathings and tones. Among other peculiarities of the language two may be mentioned. Ordinary acts, such as sleeping, eating, or walking, are denoted by different words according to the status of the actor; and when a number of persons or things is mentioned, a generic noun is added after the numeral. For instance, one man—*lu ta yauk*, or man one person; two monks—*pongyi na pa*, or monks two holy men; three cows—*nwa ma thon gaung*, or she cattle three head; five hills—*taung nga lon*, or hills five round things; ten guns—*thenat tse let*, or guns ten long things. Burmese has been a written language for perhaps 800 years. The Shan language has also been long written; it is akin to Burmese, Karen has recently been reduced to writing by the American missionaries. None of the other hill tongues are written languages. The classical language of B. is Pali, in which are written the sacred books and the laws of Manu. Pali manuscripts are kept in many monasteries, and learned monks study Pali. The older literature of B. consists of manuscript Pali books on religion and law, and of Burmese translations from these books. There are some few more or less apocryphal histories in Burmese. The favorite literature of the country consists of dramas and poetical fables. Of late years tens of thousand of copies of old and new dramas and fables have been struck off by presses established at Rangoon. About 1872 it would have been nearly impossible to find a book anywhere save in a monastery or in a large town. Now printed books are finding their way all over lower B., and are sold in nearly every market. There are seven or eight vernacular newspapers, none of which has a circulation exceeding 600 copies. A. Judson has published a grammar (1866) and a dictionary (3d ed. 1877). The name B. is, according to Yule in Hobson Jobson, an English form of Mram-ma, pronounced by the people Bam-má. The following passage is the translation of John iii. 16, in Burmese, as published by the British and Foreign Bible Society (and see **ALPHABET**, vol. i. p. 189):

ဘုရားသခင်၏သားတော်ကိုယုံကြည်သောသူအပေါင်းတို့သည်ပျက်စီးခြင်းသို့မရောက်။ အစဉ်ထာဝရအသက်ရှင်ခြင်းကိုရစေခြင်းငှါဘုရားသခင်သည်မိမိ၌တပါးတည်းသောသားတော်ကိုစွန့်တော်မူသည့်တိုင်အောင်လောကီသားတို့ကိုချစ်သနားတော်မူ၏။

Education.—The primary schools of the country are the Buddhist monasteries, in which every Burman lad must, according to national custom, sanctioned by religion, spend a part of his boyhood as pupil and as acolyte. At every monastery boys are taught to read and write; in lower B. most monasteries have accepted inspection by public officials, and teach up to the government standards. Some of the improved monastic schools have 120 or 150 boys apiece, and earn up to $500 a year as grants in aid. The census of 1881 showed that 61 per cent. of the males in lower B. above the age of 12 could read and write. Girls are not admitted to monastic schools, but they are frequently taught with boys in lay schools, and schools for girls are being gradually established. Recent statistics of education for lower B. show:

	Number of Institutions.	Boys and Girls on Rolls.
Colleges	1	30
Secondary Schools	70	8,881
Primary Schools (chiefly monastic)	5,325	142,621
Training and Technical Schools	16	410
Total	5,412	158,932

Boys, 143,715; Girls, 15,217.

Trade.—The external sea-borne trade of lower B. is valued at $70,000,000. Most of this trade centres in Rangoon. The chief export items are rice, valued at $30,000,000, teak timber $5,000,000, cutch, hides, cotton; while the chief import items are cotton piece-goods and yarns, silk goods, coal, hardware, salt, and metals. The trade between British and upper B. before the last war was valued at

$16,250,000. The great staple of lower B. is rice, of which as much as 1,150,000 tons are exported in one year. This great trade has been fostered by the establishment of rice-cleaning mills at all the seaports. B. rice goes direct to England, Germany, Italy, America, Singapore, and China; it fetches a better price than any eastern rice except the Japan and Java products. It is usually quoted about 20 per cent. above the rice of Saigon or Bangkok. The activity of internal trade in B. may be measured by the financial success of the Irawadi flotilla steamers, and of the two railways.

Arts and Manufactures. The arts in which Burmese excel are wood-carving, silver repoussé work, woven silk fabrics of many colors, and lacquer ware. In wood-carving Burmese workmen display much skill and imagination; each man draws on the wood his own patterns, according to his own fancy, before he begins with his graving tools. Much of the lacquer ware is made on delicate woven bamboo frames. Excellent boats are built on all the larger rivers. The foundation, or lower part of the hull, always consists of a hollowed, widened trunk of the thingan tree; the sides are built up with planks; both prow and stern are raised several feet above the deck and are ornamented with much beautiful and grotesque carving.

Public Works. Under Burmese rule no road or public buildings save temples and monasteries were made by the state; but certain valuable, though short, irrigation canals were made near Mandalay, Kyouksé, and Salen; while in many towns and villages brick pathways were laid down, and bridges were built, as works of religious merit. Since B. came, province by province, under British rule, about 500 m. of metalled and bridged roads have been made, besides streets and roads in towns; three navigation canals, aggregating 70 m. in length, have been dug; many cross-country roads and paths have been cleared; two railways, aggregating 330 m., had already been opened, when a third (1888), 240 m. long, connected Mandalay, the capital of upper B., with the seaboard; embankments to keep flood-waters off the land have been erected for 250 m. along the banks of the Irawadi river; the Irawadi Flotilla Co. have placed on the Irawadi river a fleet of 47 large steamers and 100 flats; court-houses, hospitals, schools, barracks, prisons, churches, and public offices have been built all over lower B., and are being begun in upper B.; and the peace of the country is safeguarded by forts at Rangoon, Thayetmyo, Toungoo, Mandalay, and Bhamo, as well as by batteries at the ports of Rangoon and Maulmain.

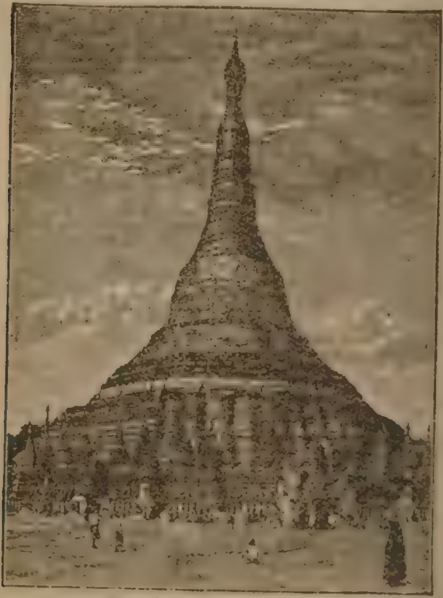
Architecture. Everybody in B. lives in either a wooden house or a bamboo hut, save in the large towns where a few rich people have brick masonry houses. Every house is built on posts or piles, so that the lowest floor is from 1 ft. to 12 ft. off the ground. In the inundated tracts house-posts are necessarily high; but even in upland country a Burman always has a space between his lowest floor and the ground, as he deems it unhealthy to sleep on the ground. Well-to-do people build their houses of teak or other wood planks; the high-pitched roofs, with projecting eaves and carved finials, are picturesque. The solid pagodas of masonry, and the teak monasteries, surmounted by three or seven tiered roofs, and ornamented with beautiful or grotesque carvings, are the most notable structures in B. Monasteries (*kyoungs*) and rest-houses (*zayats*) are erected in every town and village by devout Burmans, who consider that such works secure for them *kutho*, that is, merit or reward in the next life. Rangoon, Maulmain, Prome, and Pegu, all possess beautiful pagodas and monasteries, so also do many towns on the banks of the Irawadi. But Mandalay is famous beyond all places in B. for the number of its monasteries. The finest and most sacred pagoda in B. is the Shway Dagon pagoda at Rangoon; and among the finest monasteries are the Atoomashee (incomparable) monastery, and the Mee-[illegible] (queen's) monastery at Mandalay. The most graceful wooden structure in B. is the lofty woodwork spire above the hall of audience in the Mandalay palace; the exterior is gilded, beautifully carved, and lit up with innumerable mirror facets.

Finances. The rate at which the revenues of lower B. have increased since the annexation of Pegu in 1852 may be seen from the following figures:

1855	total	revenue,	45	lakhs
1861	"	"	80	"
1871	"	"	123	"
1881	"	"	250	"
1885	"	"	3[illegible]6	"

As a lakh of rupees is equal to $37,500 at an exchange of [illegible] cents per rupee, these 308 lakhs would equal $11,550,000. But 34 lakhs must be deducted as being rather municipal than public; so that the total public revenue for 1886 was 274 lakhs ($10,275,000). In the same year the imperial expenditure was 184 lakhs; so that in this one year a surplus of 90 lakhs ($3,375,000) was contributed by lower B. to the India treasury.

Land is held by petty occupiers direct from the state, on payment of a land tax, ranging ordinarily from 16 cents to 80 cents per acre. The average value of the rice crop on an acre may be quoted at $[illegible], so that the land tax is probably about one tenth of the gross yield. The total area under cultivation in 1887 was [illegible] acres, of which six sevenths were under rice, and [illegible] acres were kept fallow. The capitation tax is an old Burmese impost, leviable on all adult males



Shway Dagôn Pagoda at Rangoon.

The usual rate is $1.60 a year for each married man, and 96 cents for each bachelor.

All forests belong to the state, and the teak tree is everywhere reserved by ancient custom and by law as a royal tree. In all reserves conservancy and reproduction of teak is scientifically conducted, and the net revenue of the lower B. forests is [illegible]

Excise revenue is raised by a still-head duty of $1.28 per gallon on all London proof spirit, by fees paid for licenses to sell opium and liquor, and by the sale of Bengal opium to licensed vendors. The excise revenue [illegible] licensed opium shops [illegible] The salt tax is levied at three annas per maund (about $[illegible] per cwt.), or one tenth of the Indian salt tax rate. Most of the salt consumed in B. comes from Europe; some little is made locally from sea water and from brine-wells. The import customs revenue to the amount of $[illegible] a year is derived from duty on imported liquors. Export duty to the amount of $1,875,000 is levied on rice exported by sea, at the rate of three annas per maund, equal to about seven per cent. ad valorem.

During the best times of Burman rule the public revenues of upper B. were approximately about $3,562,500. But, for various reasons, more than one third of the nominal revenue of the late government was lost to the British administration. Meanwhile the cost of occupying the country by troops and military police is very great. And so upper B. caused a heavy drain on the Indian exchequer. Hereafter the old sources of revenue will improve, and new sources will arise; the cost of the army and military police will be largely reduced as the country is brought into order. If the new province improves in the same ratio as lower B. has done during the years 18[illegible]–88, the united province will pay its way long before the end of the century.

Government.—Burma is governed, in behalf of the viceroy of India, by a chief commissioner, whose headquarters are mainly at Rangoon. The territory is divided into eight provinces, over each of which a commissioner is the supreme judicial and executive officer; and each commissionership is again divided into districts. The deputy commissioner is the head of his district in all executive, judicial, police, and revenue affairs; he has under him one or more European assistants, and each district contains five to ten townships (*myos*), over which presides a Burman magistrate. Beneath the township officer are the circle officers (*thugyis*). In each village one of the chief inhabitants is appointed headman, and is vested with petty police and revenue powers. The district administration is supported by a strong police force, partly Burmans and partly Indians, who are commanded by European officers. A military garrison, consisting in 1888, Jan., of about [illegible],000 troops, occupies the country.

History.—The royal chronicles kept by the kings of Ava derive the earliest Burmese dynasty from Buddhist monarchs in India. It is conjectured that the Burmans came into the Irawadi valley from the highlands of c. Asia about 2,000 years ago, and amalgamated with the races then living in the country. It seems certain that the Buddhist religion and a Buddhist dynasty were established on the Irawadi, perhaps near Prome, about the time of the Norman conquest. In the 12th and 13th cents. flourished Burmese kings who had their capital at Pagan on the Irawadi, about 400 m. from the sea, where are still extant most remarkable groups of temples built by that dynasty. In those days Burmese was a written language, and the Pagan kings had a civilized court. After that time the seat of power was transferred at intervals to Pegu, to Toungoo, to Prome, to Sagain, and to Ava. The country was wrested from the Burmans, and held for a short time by the Shans, and by the Talaings, a race who had preceded the Burmans in the Irawadi delta. In the 16th cent. a European traveller visited the court at Pegu and has recorded an account of its magnificence. During the 17th cent. settlements in the Irawadi delta were made by the French and the Dutch. At Syriam, near Rangoon, the Portuguese established themselves nearly two cents. earlier. The last Burmese dynasty was founded by Alompra (Alaungpya), a Burman villager of Moksobo (Shwebo), 70 m. n. of Mandalay. He rose against the Peguans in 17[illegible], and eventually established his power over B. in 17[illegible]; he died at the head of his army during an invasion of Siam. His successors carried Burmese arms to Arakan, Manipur, and the capital of Siam. During the latter part of the 18th cent. Siam recovered, and B. repelled several invasions by Chinese armies from the n. Early in the 19th cent. the Burmese conquered Assam, and about 1820 they first came into contact with the British power in India. The Burmese made incursions into British territory, maltreated British subjects, attacked British troops, and refused repeated demands for redress. In 18[illegible] began a war which ended [illegible] Feb. with the Yandabo treaty, whereby Ava ceded to the British the provinces of Arakan and Tenasserim. For a while the Burmese observed the treaty. But after 18[illegible], when a new king succeeded to the throne, slights and insults were put upon the resident, who had to leave the capital and reside at Rangoon. By various acts the Burmese showed their hostility and contempt for the British. Eventually they seized certain British seamen and refused redress. After a [illegible] by the British, war [illegible] and ended after [illegible] in the acquisition [illegible] by the British. King Mindon Min, who succeeded to the [illegible] with the British, treated traders well, entertained an English resident at Mandalay, and abstained from anything that might provoke hostilities. During the crisis of the Indian mutiny in 1857 the Burmans kept quiet. In 1879 this enlightened monarch died, and was succeeded by his son, Thebaw, whose accession was signalized by the massacre of his brothers, sisters, and relatives. The British resident protested against these barbarities, and his position at Mandalay was made so perilous that he was recalled. From 1880-5 the Mandalay government showed unfriendliness in many ways; infringed the terms of the existing treaty, arranged to give a rival European power preponderating influence on the upper Irawadi, and imposed a fine of $1,250,000 on a British company working in upper B. The Mandalay government refused requests for redress; in 1885, Oct., an ultimatum was dispatched to Mandalay, the terms of which were refused, and early in Nov. King Thebaw published a proclamation calling all Burmans to join him in driving the English into the sea. On Nov. 17 a British force crossed the frontier and steamed up the Irawadi. What little resistance was made proved ineffectual. By Nov. 28 the Burmese troops had laid down their arms at Ava, the capital (Mandalay), with the palace, fort, and arsenal, were surrendered, and the king was carried off captive to India. Early in 1886 the whole of upper B. was incorporated with the queen's Indian dominions. Since then a good deal of guerrilla warfare has been waged in different parts of the country, and the people seemed unwilling to submit to British rule. But opposition is being overcome, and the country is being gradually pacified. Since the submission of the principal pretender, Limbin, it has been found possible to transfer the administration of Upper Burmah from the military to the civil authority. A very large police force is employed, about [illegible] military police and 6,000 civil. The military police are so called because they are drilled and armed as soldiers, and are composed chiefly of old soldiers. The civil police carry only swords and clubs, and the villages being held responsible for disorder, are practically compelled to provide their own patrols and constables. The military police are recruited largely from the n.w. provinces of India, and from among the Karens of Burmah (among them are large numbers of native Christians), and their officers are for the most part Eurasians. Mistakes have, of course, been made; but as the British understand better the people and their condition they are learning to rule them better.

See Forbes, British Burma (1878); Fytche, Burma, Past and Present (1878); Scott (Shway Yoe), The Burman, His Life and Notions (1882); Sir Arthur Phayre, History of Burma (1883); Scott, Burma as It Was, Is, and Will Be (1886), and for the railway scheme from India through B., Siam, and the Shan states to China, see works by Colquhoun and Holt Hallett.

BYZANTINE EMPIRE.—1

BYZANTINE EMPIRE, also styled the EAST ROMAN, EASTERN, GREEK, or LOWER EMPIRE, was founded in 395 A.D., when Theodosius the Great, at his death, divided the Roman empire between his two sons, Arcadius and Honorius. The empire had previously for a time been divided into east and west, but the division then made by Theodosius was final. Arcadius, a weak and luxurious character, was made emperor of the eastern division, formerly included under the prefectures of the east and part of Illyricum, namely, Syria, Asia Minor, and Pontus, stretching along the shores of the Black Sea in Asia; Egypt in Africa; and Thrace, Mœsia (now Bulgaria), Macedonia, Greece, and Crete in Europe. The empire thus formed lasted more than a thousand years, and underwent a great variety of fortune. It took the name of Byzantine empire from Byzantium, the ancient name of its capital, which after 330 was usually called Constantinople, or New Rome.

(1) *Period of Greek Revival* (395-716), marked by the victories of Justinian and Heraclius. Arcadius left the government of the empire in the hands of his minister Rufinus, from whom it passed to the eunuch Eutropius, and afterward to Gainas, the murderer of Rufinus. Gainas fell by his ambition in 401, and the shameless and avaricious Empress Eudoxia ruled until the time of her death in 404 (see ARCADIUS). Arcadius was succeeded by his son, Theodosius II. (408-450), a feeble prince. During his reign affairs were ably and successfully conducted by his sister, Pulcheria. Yet Thrace and Macedonia could only be secured from the destructive conquests of Attila by the payment of tribute. After the death of Theodosius II., Pulcheria married the senator Marcianus (450-457), whose firmness repelled the invasions of Attila. Marcianus was followed by Leo I., surnamed Macella (the butcher), a Thracian of low birth, but elevated to the throne by the commander-in-chief Aspar, who being himself an Arian, would not venture to encounter the perils that sovereignty might have entailed on one of his religious views. Leo II., grandson of the former, succeeded, but died after a few months, in consequence of which the crown came into the possession of his father, Zeno (474-491), who was banished by Basiliscus (475) but who reascended the throne in 477. Though a weak and unpopular ruler, he contrived to retain his power in spite of several serious revolts. The internal distraction of the empire, to which, as at other times, religious strifes added considerably, increased greatly during the reign of Zeno, and the invasions of the Goths were prevented only by gifts and stratagems. Ariadne, widow of Zeno, married the courtier Silentiarius, and raised him to the throne under the title of Anastasius I. (491-518). By the help of the Goths, this monarch overthrew the robber tribes of Mount Taurus. A new enemy, however, now appeared on the Danube in the Bulgarians, against whose desolating raids Anastasius built the Long Wall to protect the peninsula on which Constantinople is situated. The war with the Persians also broke out anew during his reign, and religious tumults often purpled the streets of Constantinople itself. After his death the army raised Justinus I. to the throne. He maintained his position mainly through the favor of the clergy, whom he had conciliated by his severe persecution of heretics.

His nephew, Justinian (q.v.) succeeded (527-565). He was celebrated for his code of laws, and for the victories of his great generals, Belisarius (q.v.) and Narses (q.v.), which re-established the empire both in Africa and Italy. But the rapid decline of the empire after his death showed that he had not been able to give it any internal cohesion or vitality. It was during the reign of Justinian that those pestilent contests of the Blues and Whites against the Greens and Reds, political factions so named from the colors respectively worn, first attained any consequence; and though the first disturbance was terribly chastised by Belisarius in 532, they continued to distract the capital periodically down to the 7th century. Justin II. [illegible], a weak man governed by his wife, Sophia, ceded a part of Italy to the Longobards, was unsuccessful against the Persians, allowed the Avars to plunder the Danubian provinces, and ultimately became insane through vexation and anxiety. Tiberius, the captain of the guard, was then made regent, and after the death of Justin II. received the imperial dignity. He ruled with mildness and prudence (578-582), purchased a peace with the Avars, concluded the war with Persia, and left as his successor [illegible] Maurice, who reigned from 582 to 602. Having replaced on the throne the Persian king, Chosroes II., who had been banished by his subjects, he thus secured the peace of his eastern frontiers; but the war against the Avars did not prosper. His niggardly treatment of the army caused a military insurrection, in which he was slain along with his son; and Phocas, one of his generals, was elevated to the throne. Phocas proved a bad ruler. Through his monstrous vices, tyranny, and incapacity for government, the empire lapsed into still deeper anarchy. Suddenly, however, a deliverer appeared in the person of Heraclius (q.v.), son of the exarch or governor-general of Africa, who overthrew the tyrant, and ascended the throne in 610. But great as was the genius of Heraclius, he had to submit to twelve years of defeat before he could organize and discipline a victorious army. In 622 he opened those magnificent campaigns in which the power of Persia was crushed, and which, in the opinion of Gibbon, were equal to those of Scipio or Hannibal. He lived, however, to see more formidable foes in the Saracens, who, during 632-641, overran the countries on the Euphrates, with Syria, Judea, and Egypt. The power of the Greeks, which was demanded to resist the Arabian invasions, was miserably divided and weakened by their unending religious quarrels, especially the controversy of the Orthodox against the Monothelites (q.v.). The empire was breaking asunder, and Heraclius, worn out with the fatigues of war, had abandoned his exhausted senses to pleasure, and his enfeebled intellect to theological discussions. He died in 641. Constantine III., who succeeded his father, Heraclius, also died soon after, and was followed for a short time by Heracleonas. The next ruler was Constans, son of Constantine II., who ruled from 642 to 668, made himself odious by cruelty, and perished in an insurrection. His son, Constantine IV., Pogonatus (668-685), repelled a seven years' siege (672-679) of the Saracens, chiefly by means of the Greek fire. On the other hand, he was compelled to pay tribute to the Bulgarians, who had established themselves in ancient Moesia. Justinian II. (685-711), son and successor of Pogonatus, had a most troubled reign. At this period the empire had sunk to a very low condition, having lost most of its possessions both in Asia and Europe, while anarchy and rebellion prevailed at home. Six emperors were dethroned in twenty-one years. It was saved from ruin by the talent and energy of Leo III., the Isaurian, general of the army of the east, who in 716 seized the throne.

(2) *Period of Comparative Prosperity* (716-1057), marked by successful defence against Saracens and Bulgarians. Leo reorganized the army and the financial system, and in 718 repelled a formidable attack of the Saracens, but in 726 unfortunately began the controversy about image-worship, which rent the empire for more than a century. In 728 the exarchate of Ravenna was lost, and the eastern provinces became the prey of the Saracens, over whom, however, he won a great victory in Phrygia. He died in 741. Constantine V. (741-775), son of Leo III., was on account of his zeal as an iconoclast hated by the monks, who gave him the surname 'Copronymus,' because, as they said, he had polluted the font at his baptism. He was a brave ruler, recovered from the Saracens parts of Syria and Armenia, and ultimately defeated the Bulgarians, against whom he had long been unsuccessful. His son, Leo IV. (775-780), was a weak ruler, but by the ability of his generals, he made the frontiers of the empire secure against the Saracens. After him, Constantine VI. ascended the throne under the guardianship of his ambitious mother Irene (q.v.), who raised a powerful party in favor of image-worship. Constantine having made an attempt to liberate himself from the influence of his mother and her partisans (797), Irene barbarously caused her own son to be deprived of sight. He died soon after this atrocity; and Irene, who had for a time entertained the design of marrying the Emperor Charlemagne, and thus uniting the east and west of Europe in one vast empire, excited the opposition which in 802 placed her treasurer, Nicephorus, on the throne. The restoration of the western empire by Charlemagne in 800 completed the division of the old Roman empire into East and West. Nicephorus, who fell in battle against the Bulgarians (811), was succeeded by his son, Stauratius, who soon yielded the throne to his brother-in-law, Michael I., from whom it was taken by the Armenian general, Leo V., a powerful ruler, who conquered the Bulgarians, but fell (820) in a conspiracy excited by his zeal against image-worship. Michael II., the Stammerer, was raised from a dungeon to the

throne, and ruled until 829. In his reign, Crete and Sicily passed into the hands of the Saracens. Under the rule of his son, Theophilus, who is praised by the Byzantine historians for his love of justice (829-842), the general, Manuel, gained some indecisive victories over the Saracens. Theodora, widow of Theophilus, and guardian of Michael III. (842-867), brought the controversy about image-worship to a close at the council of Nicæa, or Nice, in 842, when it was fully sanctioned and restored. During this reign the government busied itself in the persecution of the Paulicians (q.v.), while the Saracens devastated the Asiatic provinces.

Theodora having been banished to a convent by her son, the government was for some time held by Bardas, uncle of Michael III., and after his assassination, by Basilius I., the Macedonian, who caused Michael to be put to death, and afterward ruled ably from 867 to 886. But though on the whole he was successful against the Saracens, the latter contrived to make themselves masters of Syracuse. His dynasty (the Macedonian) maintained itself on the Byzantine throne, with some few interruptions, until 1056. The reign of his son, Leo VI., the Philosopher (886-912), was not prosperous. The inroads of the Bulgarians and of the Saracens, who in 904 plundered Thessalonica, continued to increase during the government of his son, Constantine VII., Porphyrogenitus, who ruled mildly but feebly (912-959). Under his son, the dissolute Romanus II. (959-963), Crete was retaken from the Saracens by the vigor of his general, Nicephorus Phocas, who, on the death of the emperor, married his widow, Theophania. She, however, caused him to be murdered in 969, as she wished to marry John Zimisces, who ruled till 976, and, like his predecessor, was victorious against the Saracens and Bulgarians, as also the Russians, who for a considerable period annoyed the empire with their attacks. His successor, Basilius II. (976-1025), the son of Romanus, conquered the Bulgarian kingdom, and attached it as a province to the empire, which it remained till 1186, when it again became independent. His brother, Constantine VIII. (1025-28), did not resemble him. Romanus III. next ascended the throne, but was assassinated by his wife Zoe, a profligate but crafty princess, who raised successively to the imperial dignity Michael IV. (1034), Michael V. (1041), and Constantine IX. (1042). After Constantine's death in 1054, Theodora, sister of Zoe, was elected empress, and on her death in 1056, Michael VI., who was deposed by Isaac I., Comnenus. At the beginning of the 11th century the Saracen power, which had so long been a dangerous rival of the Byzantine empire, broke down, but the Seljuk Turks, a yet more formidable enemy, appeared on the eastern frontier. In Lower Italy the Normans narrowed the Byzantine power to the possession of Otranto.

(3) *Period of Decline* (1057-1204), marked by the Crusades and the advance of the Turkish power in Asia.—With Isaac I., Comnenus, who came to the throne in 1057, the dynasty of the Comnenian emperors began. He retired to a monastery (1059), and was succeeded by Constantine X., whose widow, Eudocia, married Romanus IV., and raised him to the throne. Romanus was deposed in 1071 by Michael VII. (son of Constantine X.), who, in his turn, was dethroned by Nicephorus III. (1078), who reigned until 1081, when he was deposed by Alexius I. (q.v.), Comnenus (1081-1118). This last reign was marked by the commencement of the Crusades, during which the Byzantine emperors had a most difficult part to play. The Crusades, however, helped greatly to check the advance of the Seljuk Turks, whose dominion had already extended itself [illegible]. The successors of Alexius, his son, Kalo-Johannes (1118-43), and Manuel I. (1143-80), were able rulers, and victorious in their campaigns with the Turks. Manuel's son, Alexius II., was murdered by his guardian Andronicus, a grandson of Alexius I., who raised himself to the throne. He was the last prince of the Comnenian dynasty and fell in an insurrection caused by his cruelty, 1185.

A period of [illegible] Isaac II. and three emperors of the name of Alexius followed each other in quick succession till 1204.

(4) *Latin Occupation* (1204-61).—In 1204 the French and the Venetians (collectively called Latins) advanced on Constantinople and captured the city. The European portion of the empire was divided into four parts, of which the first, including the metropolis, fell to the lot of Baldwin, Count of Flanders, who was made emperor, and to whom the other participants in the expedi-

tion did fealty for their respective shares. In the west of Asia Minor, Theodorus Lascaris, who had been elected emperor at Constantinople, formally transferred the seat of government to Nicæa; in the n. e. of Asia Minor, the governor of the province of Colchis, Alexius Comnenus, ultimately ruled at Trebizond with absolute authority, while one of his successors, John Comnenus, even assumed the title of emperor. The Latin occupation was an event alike disgraceful to the leaders who effected it and permanently hurtful to the Byzantine empire, which never recovered its lost cohesion. At Constantinople neither Baldwin nor his successors could strengthen the sinking empire. Baldwin himself died a prisoner in the hands of the Bulgarians. After him came his brother Henry, who ruled bravely and wisely till 1216. For the next four years the empire was actually without a ruler, and a prey to utter anarchy. In 1221 Robert, son of Peter, Count of Auxerre and Courtenay, came to the throne; he was succeeded by John of Brienne, titular king of Jerusalem (1228-37), and the latter by Baldwin II. (1237-61). During these reigns a great part of the empire was seized by John Vatazes, successor of Theodorus Lascaris of Nicæa (1222-55). This ruler was followed in Nicæa by Theodorus II. (1255-59), whose son, Johannes, during his minority, was superseded by Michael VIII., Palæologus, who, by the help of the Genoese, captured Constantinople in 1261, and thus put an end to the Latin dynasty.

(5) *Period of Fall* (1261-1453), marked from 1354 by the rapid advance of the Turks in Europe. Michael, the first of the Palæologi, a powerful prince, really endeavored to strengthen the realm; but by his unhappy attempt to unite the Greek Church with the Latin, from which it had decisively separated (1054), he gave great offence to the clergy and the people. His son, Andronicus II., who came to the throne in 1282, re-established the Greek ritual. After the death of his son and co-regent, Michael IX. (1320), Andronicus II. was compelled to divide the throne with his grandson, Andronicus III., who became sole emperor in 1328. This monarch unsuccessfully opposed the Turks, who took Nicæa and Nicomedia in 1330, and wasted the European coasts. He died in 1341. Under his son, Johannes V., the Turks first made a permanent settlement in Europe by the taking of Gallipoli in 1354. In 1361 the sultan Amurath took Adrianople, and made it the seat of government. In 1381 all that remained of the Byzantine empire became tributary to the Turks. Manuel II., son and successor of Johannes, was besieged in Constantinople by Bajazet, who defeated an army under Sigismund of Hungary at Nicopolis in 1396, and compelled the Byzantine monarch to cede to the Turks one of the main streets of the city. The fall of the city seemed inevitable when it was saved by the advance into Asia Minor of the great Tartar conqueror, Timur, who defeated Bajazet at Angora in 1402. By this diversion Manuel recovered some portion of the Byzantine provinces, but made so little use of the occasion that in 1422 the metropolis was again besieged by Amurath II., who, after he had overthrown the forces sent to aid the emperor by Ladislaus, king of Hungary, at the battle of Varna, made Constantinople in 1444 the limit of the dominions of Johannes VII., son of Manuel. Constantine XI., brother of Johannes, bravely but fruitlessly contended against the overwhelming Turkish forces, and fell heroically in the defence of Constantinople, which was captured by Mohammed II., 1453, May 29, when the Byzantine empire was brought to a close. The petty Latin princes who existed here and there in Greece and the despots Demetrius and Thomas, who ruled in the Morea, were subdued by Mohammed in 1460, while David, a member of the Comnenian dynasty, the last emperor of Trebizond, submitted in 1461.

It has hitherto been usual for authors dealing with the bloody record of dynastic crimes in the Byzantine empire to affirm that the history of the [illegible] degraded a caricature of imperial government. Against all such sweeping statements Mr. Freeman and others strenuously protest, declaring that careful study brings the [illegible] and that, on the whole, the history of the [illegible] of the Byzantine empire is the record of a noble struggle [illegible]. For [illegible] centuries the empire was a bulwark of [illegible] against Persians, Saracens, Turks, and it transmitted Christianity to Russian and other Slavonic tribes after long protecting it from them.

The constitution of the Byzantine empire was founded on the institutions of Diocletian and Constantine the Great, and was purely despotic. The emperors, who were consecrated by the Patriarchs of Constantinople, claimed, as the true descendants of the Cæsars, a sovereignty over the west as well as the east, and styled themselves 'rulers of the Romans,' even after Charlemagne had founded a new dynasty. Though great influence was at various times exercised by the clergy, as well as by women, courtiers, and ministers, the emperors were pure autocrats, having supreme power in all departments of government, and being themselves superior to all law. By pompous titles, by great splendor of costume, and by a strict observance of an elaborately minute court ceremonial, as well as by the cruel penalties inflicted for any insult offered to the imperial dignity, or to the dignity of the emperor's relatives, they kept themselves sacredly apart from the people. Gradually everything disappeared that might have been a check upon the utter despotism of the supreme power. As early as the 6th century, the consulate was absorbed into the mass of imperial honors, while the traces of the senate which Constantine had established at Byzantium, and which was composed of those on whom the emperor had bestowed the dignity of the patriciate, as well as the chartered privileges of the towns, had entirely vanished in the 10th century. The privy council, to whom the conduct of the state was intrusted, was arbitrarily chosen by the emperor. The state officials were very numerous, and their respective ranks carefully distinguished. They were raised far above the people by titles and privileges, but were utterly dependent on the throne. Among these the Domestici (including many eunuchs) claimed the highest rank as immediate attendants on the emperor. The Domestici were made commanders-in-chief of the army. Among them the Domesticus of the East (styled, *par excellence*, Megadomesticus) held the highest rank, and finally, under the Palaeologi, was considered the first civil and military officer of the realm. The provinces were ruled by governors bound to contribute certain sums to the royal revenue, which gave rise to oppressive exactions. No distinction was made between the state revenue and the privy purse. For military service, the land was divided into districts (Themata); and the army, down to the later times, consisted almost entirely of foreign mercenary troops. The imperial bodyguard, or spatharii, were mainly soldiers of Teutonic race, the most noted being the Varangians from Scandinavia. The admiral of the fleet was styled Megas Dux. In the midst of constant internal and external disturbances, the administration of justice was grossly neglected and abused, though Justinian and other emperors earnestly endeavored to establish just laws. See the articles on the principal emperors, the historical sections of the articles ROME and TURKEY. Gibbon's Decline and Fall of the Roman Empire; Finlay's History of Greece, the main authority for the Byzantine empire (7 vols., 1851-56; new ed., 1877); and Gasquet's L'Empire Byzantin (Paris, 18[illegible]).

CAMBODIA.—1.

CAMBODIA, *kăm-bō′-de-a*, or *Camboja:* nominally a state in Indo-China under a French protectorate, but practically a French dependency, on the lower course of the Mekhong, between 10° 30′ and 14° 10′ n. lat., and 102° 45′ and 106° 45′ e. long., 220 m. from n.e. to s.w., and 150 m. broad, comprising an area of 32,390 sq. m. It is bounded on the s.e. and s. by French Cochin China; on the s.w. by the gulf of Siam; on the n. by Siam; on the e., toward Annam, where the frontier traversing imperfectly explored territories is vague, by the territories of independent Mois tribes. The cost, 156 m. long, indented about the middle by the bay of Kompong-Som, offers but one port, Kampot. Among the numerous islands along the coast are Kong, Rong, Hon-nan-Trung, etc., most of them inhabited. In the n. and w. are some extreme ramifications of mountain chains descending from the Central Asian plateau; on the n. the frontier chain of Phnom (i.e. 'mountain') Dangrek; and, between the Great lake and the gulf of Siam, Crévanh, Tek-Liang, Pang-Chak, Thiang Ho, Elephant chain, Bomba Cone; some of them over 3,000 ft. high. The mountains generally contain iron, limestone, sandstone, and more sparingly, copper. The greater part, however, of C. consists of alluvial plains completely inundated during the rainy season. In the n.e. are schistose forest-clad tracts. The principal river, the Mekhong, (in Cambodian, Tonlé-Tom, i.e. 'great river'), flows through C. from n. to s. as far as Chen-Tel Pho, and thence s.w. till, at the town of Pnom-Penh, it divides into two arms, the Hau Giang or Bassac, and the Tien Giang or Anterior river, both flowing s. Above Pnom Penh is a n.n.w. outlet for the surcharge of the Great river, the Tonlé Sap (i.e. 'river of sweet water'), expanding into the Great lake, 100 m. by 25 m. in area, with a depth of 65 ft. at its maximum magnitude. The periodical risings of the Great river deposit rich mud strata over the surrounding plain to a wide extent. Numerous tributaries discharge into the Mekhong and Tonlé Sap. Flowing into the gulf of Siam are Kompong Som and Kampot. The climate is divided into the rainy season, from Apr. to Oct., but interrupted in Aug., and the dry, from Oct. to Apr. The thermometer ranges from 70° to 104° Fahr., but on the high plateaus sinks as low as 59° Fahr. The natural products are more numerous and varied than in French Cochin China: rice, the principal cereal, cotton, maize, pepper, cinnamon, vanilla, cardamoms, sugar cane, indigo, manioc, ramee, sesame, gutta percha, etc. The forests contain excellent timber. The fauna of C. comprise the elephant, tiger, panther, bear, rhinoceros, ape, buffalo, etc. C. supplies Cochin China with a large part of the cattle it consumes. The horses of C. are small and robust, with remarkably large heads. Birds, principally wading birds, abound. Crocodiles are found in most of the rivers.

The population of C. was estimated in 1890 at 1,500,000 to 1,800,000, of whom about 1,000,000 are Cambodians, over 100,000 Chinese, and the remainder Annamites and miscellaneous. Pnom Penh, the capital, at the junction of the 'Four Arms,' has a population of 35,000 of very mixed race. The Cambodians approach the Malay and Indian types, are less Mongoloid and more nearly resemble the Caucasian type than their neighbors. They are tall and robust, copper colored rather than yellow, the skull elongate, the nose, though flat, more prominent than in the Annamite, and the eyes very slightly oblique. Subject for centuries to foreign incursions and mandarin exactions, the Cambodian, being without foothold of his own, and restricting himself to the barest necessities, has grown indolent and passive, the more so that the rich loam yields its abundance for almost no cultivation. The principal industry is the fishing of the Great lake, beginning in Nov., and employing annually some 15,000 persons. In Kompong-Soai are manufactures of iron. The total commerce of C. is valued at from 10,000,000 to 12,000,000 francs yearly. Kampot exports pepper and cardamoms. Lines of steamers connect Pnom Penh with Saigon twice a week on one side, and with Battambang on the other. The religion of C. is a development of Buddhism, in which the worship of ancestors forms a large part. Instruction is given by the priests. The common reckoning of time dates from 638 A.D. At Pnom Penh is a large school with two French professors and a native teacher, attended by the king's sons and the mandarins. The Cambodian language has much in common with the other monosyllabic languages of Indo-China, especially those of Siam and Annam. It lacks, however, the variety of tones or inflections of voice by which these discriminate between the different significations of the same monosyllable. The letters are derived from the Indian Pali, the parent of all the Indo-Chinese alphabets. Besides the current idiom there is a sort of literary language of Pali vocables used in official ceremonies by the bonzes and mandarins. By treaty with France in 1884 C. is divided into eight provinces or residencies. The whole of the French possessions in Indo-China, Cochin China, Annam, Tonquin and C., are now, by decree of 1887, united under the name of Indo-China, with a governor-general at its head, C. having placed over it a resident-general under the governor-general.

The ancient kingdom of C. or Khmer formerly extended over a large part of Indo-China. Buddhism would appear to have been introduced in the 4th cent. The Portuguese in the 16th cent. were the first Europeans to explore the valley of Tonlé-Tom, and to this day descendants of the Portuguese are to be found in C., close on the Portuguese followed Spaniards from Monilla, and about 1650 the Dutch set up their factories at the mouth of the Mekhong. The Khmer kingdom became dismembered in the 17th cent., when Annam took successively Baria, Bien-Hoa, Saigon, Mytho, and Vinh Long, and in 1715 Chandoc and Hatien. A century later (1812) Siam wrested the provinces w. of the Great lake; Battambang, Angkor, Tonlé Repon, and Melu-Prey. In 1858 France first appeared in Indo-China. Having made herself mistress of the Annam provinces of the delta of the Mekhong, France on the 1863, Aug. 11, concluded a treaty with the new king of C., Norodom, placing C. under a French protectorate. This treaty has been superseded by that of 1884, June 17, under the king of C. accepts all the reforms, administrative, judiciary, financial, and commercial, which the government of France may deem advisable.

Ancient Sculptures.—The splendid ruins of Khmer architecture are the most interesting objects in C. The temples and palaces of Angkor were known to Portuguese missionaries in the 16th cent. A graphic account of C. by a Chinese traveller who spent two years (1295-7) in that kingdom, was translated by Abel Rémusat in 1819. In 1858-61 M. Mouhot, a French naturalist, explored the valley of the Mekhong, etc. He was followed by Dr. Adolph Bastian. Later, J. Thompson took a plan of Angkor Vaht, with 30 photographs of it and other places. The French next fitted out two expeditions, the first under Capt. de Lagrée (1866), and the second (1873) under Capt. Delaporte. The great piles explored number over 50, while the smaller isolated structures are counted by the hundreds. The temple of Angkor-Vaht occupies a larger area than that of Karnak in Egypt, and just as vast are the monuments of Préa Khan (near Angkor), of Méléa, and of Ponteay Chma. Those of Baion, Préa-Khan (province of Kompong Soai), Ta Prohm, Ka Kéo, and Ek dey constitute likewise immense groups. More remarkable than their magnitude and number is their artistic value, the finest productions deserving to be ranked even with the masterpieces of the w. The Khmer structures are characterised by grandeur and unity of design, and are, moreover, for the most part entirely overlaid, profusely but unconfusedly, with delicate ornamentation. In a single temple of Angkor are 1,532 columns, and the mountain yielding the stone is 32 m. distant. The joinings are scarcely perceptible: no sign of mortar, no mark of chisel; the surface as polished as marble. Pale or fallow sandstone, bright red brick, and Bien-Hoa stone of sombre rusty color, are blended in the Khmer architecture for polychromatic effect. Among the ruins are massive stone bridges so solidly constructed as to have almost all resisted the periodical inundations and shock of huge tree-trunks hurled against them. The bridge of Spean Tenk measures 450 ft. in length, and has 34 arches. Monuments so vast, so numerous, and so diverse are calculated by Delaporte to range from the beginning of our era to the 15th and 16th cents., the finest dating from between the 8th and 13th or 14th. The Cambodians of to-day, who would be utterly incapable of duplicating the smallest and simplest of these structures, look upon them as the work of a grander race of giants or genii, thus confessing, through their superstition, their own degeneracy.

See E. F. Aymonier, Géographie du Cambodge (Paris, 1876), and for the language, his Dictionnaire Français-Cambodgien (Paris, 1875); H. Mager, Atlas Colonial; A. Bouinais and Paulus, L'Indo-Chine Française (2 vols., 1885); A. H. Mouhot, Travels in Indo-China; J. Moura, Cambodge (two vols., Paris, 1882); L. Delaporte, Voyage au Cambodge; F. Garnier, Excursions et Reconnaissances (Saigon), vols. viii. and xiii.; Fergusson, History of Architecture.

CANADA.—1.

CANADA, *kăn'-a-da:* The derivation of the name C. is obscure, but it is believed to have its origin in an Indian word *kannatha*, meaning a village or collection of huts. The supposition is that Jacques Cartier, hearing the term used by the Indians in connection with their settlements, applied it to the whole of the country. C. originally comprised the extensive range of territory as far w. as the Mississippi, including the great lakes, which was ceded to Great Britain by France in 1763. Subsequently, at the termination of the war of independence, it was limited to the region now occupied by the provinces of Ontario and Quebec, described prior to 1867 as upper and lower C. respectively. What is known as the Dominion of C. is a confederation of colonies of British North America, constituted in 1867 by the British North America act of that year (30 Vict. chap. 3). Upper and lower C., Nova Scotia, and New Brunswick were the first to unite under the provisions of that statute. The Hudson bay territory was acquired from the company of that name, a portion of it formed into the province of Manitoba, the remainder designated the n.w. territories, and both were admitted into the confederation in 1870. Part of the n.w. territories was subsequently divided into districts as follows: In 1876 Keewatin; in 1882 Assiniboia, Saskatchewan, Alberta, and Athabasca. In 1871 British Columbia, and in 1873 Prince Edward island, became parties to the Union, which now includes the whole of British North America except Newfoundland.

Geography and Physical Aspect.—Canada is bounded on the n. by the Arctic ocean, on the w. by the Pacific and Alaska, on the e. by Newfoundland and the Atlantic, and on the s. by the United States. Both the Atlantic and Pacific shores abound in deep indentations forming magnificent harbors and sheltered bays. On the Atlantic the principal bay is the bay of Fundy, remarkable for its high and rushing tide, the water rising from 12 to 70 ft.; there is also the Hudson bay, connected with the Atlantic by Hudson straits, really an inland sea with an area of 350,000 sq. m., and the gulf of St. Lawrence, 80,000 sq. m. in extent. The most striking physical features of C. are the Rocky mountains, the Laurentian range, and the chain of immense fresh water lakes. Hills of no great height skirt the coast of Nova Scotia, Cape Breton, and Labrador, and the s. bank of the St. Lawrence is fringed by the Nôtre Dame mountains (also called the Shickshock mountains), a spur of the Appalachians, the highest parts of which (4,000 ft.) are in Gaspé. The Laurentian range extends along the n. side of the St. Lawrence, the Ottawa river, and then stretches away to Lake Superior and the n., the length of the range being about 3,500 m. It forms the watershed between Hudson bay and the St. Lawrence, and varies in height from 1,000 to 3,000 ft. The e. portions of C. are generally well timbered, and the same remark applies to British Columbia, and to the n. w. territories n. of the Saskatchewan. W. of the Red river, however, between the 49th and 55th parallels of lat., there is an immense fertile plain, suitable for general agriculture and grazing (the e. end being about 800 ft., and the w. about 3,000 ft., above the level of the sea), extending nearly to the Rocky mountains. This range consists of triple chains with valleys between; the most e. has the greatest elevation near the 52d parallel, the highest peaks being Mt. Brown (16,000), Mt. Murchison (15,789), and Mt. Hooker (15,700). The average height of the chain is from 7,000 to 8,000. C. is well watered, the map representing a network of lakes and rivers. The system of the St. Lawrence alone, with the great lakes, Superior, Huron, Michigan, Erie, and Ontario (between the two last named are the celebrated falls of Niagara), drains an area in C. of 330,000 sq. m. (see North America in Stanford's Compendium: United States, by Hayden; C. by Selwyn). The area of the lakes is about 90,000 sq. m. —Lake Superior is 630 ft. above the sea level, and Lake Ontario, 234 ft.; and with their outlet they form the greatest fresh water way in the world. Other important lakes are Winnipeg (9,000 sq. m.), Winnipegosis (3,000), Manitoba (2,000), Lake of the Woods (1,500), Great Slave (12,000), Great Bear ([illegible]), and Athabasca (3,000).

Next to the St. Lawrence the chief rivers are the Saskatchewan and the Winnipeg, flowing into Lake Winnipeg, and the Nelson, flowing from it into Hudson bay; the Assiniboine and the Red river, which join their waters to flow into Lake Winnipeg; the Albany and the Churchill, emptying into Hudson bay; the Athabasca and the Peace rivers, flowing into Lake Athabasca and the Slave river, from it into the Great Slave lake; the Mackenzie, fed from both the Great Slave and the Great Bear lakes, and emptying into the Arctic ocean; the Fraser and Thompson, in British Columbia, emptying into the Pacific; and in the e. provinces, the

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Ottawa, chief tributary of the St. Lawrence, itself fed by the Gatineau and Matawan; the Saguenay, emptying Lake St. John into the St. Lawrence; and the St. John, which flows into the bay of Fundy, after a course of 500 m. in New Brunswick, which it partly separates from the state of Maine. The principal islands of the Dominion are: on the e., Cape Breton, Prince Edward, and Magdalen islands, and Anticosti, in the gulf of St. Lawrence; and on the w. coast, Vancouver island and Queen Charlotte islands. Lying along the n., in the great Arctic archipelago, are immense islands, all of which, excepting Greenland, belong to Canada (Imperial Order in Council, 1880, Sept. 1). See AMERICA.

Climate. The cold in winter and the heat in summer are greater than in Great Britain, but the climate is a healthy one. This is demonstrated by the returns of the military stations, and by the general health and physique of the resident population. As to the seasons, spring commences two or three weeks later than in England, but the conditions for the rapid growth of produce—warm sunshine and a sufficiency of rain—are so favorable that the crops of the two countries are about equally advanced by the middle of July. The spring consists of two months, April and May. Summer includes June, July, Aug., and Sept.; autumn, Oct. and part of Nov. On an average, the winter may be said to continue from the middle of Nov. to the end of March, or about four and a half months. Between Manitoba and the n.w. and Ontario there is a few days' difference in favor of the latter. The same may be said of Ontario as compared with Quebec and the maritime provinces. British Columbia probably possesses the finest climate in North America. It has all the advantages of that of England without its disadvantages. The following figures show the extreme temperatures in the principal towns of the different provinces in 1884, the latest official figures available:

	Max.	Min.	Mean.
Toronto (Ont.)	89.6°	— 13.3°	44.08°
Montreal (Que.)	91.0	— 23.5	41.67
Halifax (N. S.)	88.0	— 11.1	42.67
St. John (N. B.)	85.0	— 19.5	40.40
Charlottetown (P. E. I.)	81.8	— 20.1	39.45
Winnipeg (Man.)	88.5	— 44.5	30.87
Victoria (B. C.)	86.0	8.0	46.97

The test of the thermometer, however, gives a very exaggerated impression of the severity of the Canadian winter. The humidity or the dryness of the atmosphere really decides the comfort or discomfort, the healthiness or unhealthiness, of a climate. In C., although there are extreme temperatures, the air is always dry, bracing, and exhilarating, and consequently the country is considered a very healthy one. In the spring and summer wild flowers are as common as in England. In Aug. and Sept. wild fruits and delicate ferns abound; all the grain and root crops grown in England flourish; and many species raised in England under glass, such as grapes, peaches, melons, and tomatoes, ripen in s. C. in the open air.

Area.—The area of the different provinces and districts of C. is as follows: Ontario, 181,800 sq. m.; Quebec, 188,688; Nova Scotia, 20,907; New Brunswick, 27,322; Prince Edward Island, 2,133; Manitoba, 60,500; British Columbia, 341,305; Provisional districts, Assiniboia, 89,700; Saskatchewan, 114,000; Alberta, 100,000; Athabasca, 105,500; remaining territory, 2,344,000; total, 3,470,000. The area of the great lakes, if added, would probably increase the total to about 3,500,000 sq. m. For purposes of comparison, it may be stated that C. is nearly as large as the whole of Europe, and about 600,000 sq. m. larger than the United States without Alaska.

Population.—According to the census returns of 1871, the population of the Dominion numbered 3,635,024 (males 1,842,174, and females 1,792,850). In 1881 it was as follows:

	Males.	Females.
Prince Edward Island	54,729	54,162
Nova Scotia	220,538	220,034
New Brunswick	164,119	157,114
Quebec	678,175	680,852
Ontario	976,470	946,758
Manitoba	37,207	28,747
British Columbia	29,508	19,956
The Territories	28,113	28,333
	2,188,854	2,135,956
Total	4,324,810	

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Of this population 478,235 were born in the British Isles and possessions, 101,047 in Prince Edward Island, 420,088 in Nova Scotia, 288,265 in New Brunswick, 1,327,809 in Quebec, 1,467,988 in Ontario, 19,590 in Manitoba, 32,275 in British Columbia, [illegible] in the Canadian n.w. Territories, 77,753 in the United States, and [illegible] in other countries. The estimated number of the inhabitants in the summer of 1888 was nearly 5,000,000.

By descent there were of French Canadians, 1,298,929; Irish, 957,403; English, 881,301; Scotch, 699,863; Welsh, 9,947—total United Kingdom, 2,548,514; Germans, 254,319; Indians, 108,547; Dutch, 30,412; the balance being cosmopolitan, including Africans, Swiss, Chinese, Scandinavians, Italians, Russians, Spanish and Portuguese, and Icelanders. The census of the Dominion is recorded every ten years, but a supplementary census of the n.w. Territories was taken in 1885, and of Manitoba in 1886. The population of Assiniboia, Saskatchewan, and Alberta in 1885 was 48,362. No comparisons can safely be made between these figures and those of the census returns for the n.w. territories in 1881, as the latter were largely estimated, and were, moreover, applicable to the whole of the territories. The population of Manitoba in 1886 was 108,640, as compared with 65,954 in 1881—an increase of 64.7 per cent. in the five years.

The population of the principal cities of the Dominion in 1888 w

ONTARIO—	
Toronto	172,463
Hamilton	41,259
Ottawa	44,000
London	26,000
QUEBEC—	
Montreal	210,000
Quebec	64,350
NOVA SCOTIA—	
Halifax	42,000
NEW BRUNSWICK—	
St. John	28,110
MANITOBA—	
Winnipeg	22,098
BRITISH COLUMBIA—	
Victoria	20,000
Vancouver	14,000

English is generally spoken in the dominion, but in some parts of the province of Quebec French is the only language understood. In the Dominion, Quebec, and Manitoba parliaments, members may address the house in either language. In Quebec province the speeches are usually French. Official notices are published in French with or without an English translation. In the streets of Quebec the policemen do not understand questions in English, much less reply to them. The French spoken by the habitants, as the French Canadians are called, is a patois which in many respects resembles the French of the 17th cent. more closely than the French of modern Paris. The songs of the French Canadians, especially boat songs, are many and interesting.

Indians. According to the census returns of 1881 there were 108,547 Indians in C. One fourth are in the eastern provinces, one half in Manitoba and the n.w., and one fourth in British Columbia. In the older provinces very few of the Indians are of pure blood. They have made much progress toward civilization, and are principally engaged in industrial and agricultural occupations, though many still follow hunting and fishing as a means of livelihood. The franchise was in 1885 extended to those who possessed the necessary property qualifications. In the n.w. territories and British Columbia the Indians are located upon reserves, are being instructed in [illegible] better work by officers of the government and own [illegible] of considerable value. Endeavors are also being made to encourage the education of the children by the establishment of schools. The Indians are supervised by the superintendent-general of Indian affairs, which office is held by the minister of the interior, a member of the Dominion cabinet. The government expenditure for the Indian service in 1887 was $1,201,800.

Religion. There is no state church in C., and the utmost religious liberty prevails. According to the census of 1881, the population included 1,791,982 Catholics, of whom 1,170,718 were in Quebec, and 320,839 in Ontario; 574,818 Church of England; 676,165 Presbyterians; 742,981 Methodists; 296,525 Baptists; 46,350 Lutherans; 26,900 Congregationalists. The Church of England in C. has 19 bishops, and about 1,000 clergy. The Roman Catholic church has one cardinal, five archbishops, 18 bishops, and 1,200 clergy. The Presbyterians have 921 ministers, the Methodists 1,450, and the Baptists 500.

Education. Long before school boards were established in Great Britain, C. was in the enjoyment of free and unsectarian education. In 1846 compulsory taxation for the support of public schools was for the first time embodied in the law of C. It was also adopted subsequently by the other provinces. The details differ somewhat in the various provinces, but, generally speaking, the system, which is more or less compulsory, is as follows: Every township is divided into sections sufficiently large for a school. Trustees are elected to manage the affairs, and the expenses are defrayed by local rates and provincial government grants. In districts where the inhabitants are strongly divided in their religious opinions, and mixed schools are not possible, the law enables separate ones to be provided. This applies only to Ontario, Quebec and Manitoba. Teachers are trained at normal schools at the public expense. For those who can afford it—and the cost is very small—there are schools of a higher grade, managed also by trustees. At these, as well as at many excellent private establishments, a classical education is given, and pupils are prepared for the professions. There are also colleges and universities open to youths prepared in the lower schools. Toronto, Kingston, Montreal, and other places have schools of medicine, and the leading religious denominations have institutions at which young men are prepared for the ministry. For the higher education of girls there are also schools. In no country in the world is good education more generally diffused than in C., and the highest prizes the country offers are open to all, rich and poor alike. The principal universities are, in the order in which they were founded, as follows: Dalhousie (N. S.), 1820; McGill (Que.), 1821; New Brunswick, 1828; Toronto (Ont.), 1828; Queen's, Kingston (Ont.), 1841; Laval (Que.), 1852; Manitoba, 1877. The government also established 1874 the Royal Military college at Kingston (Ont.). The following are the chief scientific societies: Royal society of C.; Natural History society of Montreal; Canadian institute, Toronto; Nova Scotia institute, Natural History society, New Brunswick; and Scientific and **Historical society, Winnipeg.**

Social Conditions. The distinctions of caste do not exist to the same extent as in the mother country, although there is a careful preservation of those traditions which give the general features to English society. Almost every farmer and agriculturist is the owner of his acres; he is his own master, and is free to do as he wills. This sense and state of independence permeates the whole social system, and produces a condition of freedom unknown in older countries. C. has passed beyond the mother country in many social questions. Thus, as regards the liquor traffic, local option prevails; by an act of the Dominion parliament in 1882, marriage with a deceased wife's sister was legalized; religious liberty prevails; there is practically free and unsectarian education, and a free and liberal franchise; members of parliament are paid for their services; the parliaments are quinquennial; and there is no system for legalizing pauperism, although orphans and the helpless and aged of both sexes are not neglected.

Public Lands.—The public lands in the various provinces are under the control of the local governments, excepting in the case of Manitoba and the n.w. territories, where the lands are retained by the Dominion government, the object being, by sale, etc., to obtain a refund of the money expended in acquiring the territory, and in constructing the Canadian Pacific ry. Every encouragement is held out to immigration, free grants of land being obtainable in most of the provinces, while improved farms with buildings, implements, and machinery can be purchased from the holders on favorable terms in many parts. In Manitoba and the n.w. the government offer free grants of 160 acres of land to male settlers over 18 years of age, and to females if heads of families, with the right to pre-empt a similar quantity at from $1.00 to $2.50 per acre.

Trade and Commerce. The value of the imports in C. for the year ending 1889 June 30, was [illegible]; $109,673,447 being entered for consumption. The duty collected in 1889 amounted to $22,469,705, equal to $4.63 per head of the population. In 1889 the imports from the United States were 48 per cent. of the whole, from Great Britain 40.2 per cent., the balance of the imports being from foreign countries and other colonies. The following table (taken from the official hand-book issued by C. at the Colonial and Indian exhibition, 1886), will give an idea of the nature of the import trade. Similar figures are given for 1875 for purpose of comparison.

	1875.	1885.	1889.
Manuf. of iron and steel	$19,005,716	$11,657,189	$12,270,110
" metal other than iron	1,401,384	2,5[illegible]	....
" silk	2,219,160	2,[illegible],108	2,973,847
" cottons	9,5[illegible]	6,21[illegible]	4,2[illegible]
" woolens	12,767,575	9,653,628	10,355,942
All other manufactures	21,[illegible]	17,[illegible]	7,[illegible],173
Food and drink	20,012,[illegible]	18,[illegible]	20,9[illegible]
Raw material	10,[illegible]	[illegible]	1[illegible]
Coin and bullion	2,2[illegible]	2,[illegible]	[illegible],251
Miscellaneous	10,[illegible]	12,[illegible],009	28,2[illegible]
Total	$119,618,657	$102,[illegible],512	$114,155,882

It will be observed that considerable changes have taken place since the former year, largely owing to the development of the manufactures of C. The imports of manufactured goods have decreased, but the corresponding industries of the Dominion have increased in a still greater ratio. In evidence of this statement, take the importations of raw material. The raw cotton imported from 1874-8 (five years) aggregated 25,641,000 lbs. From 1881-5 it increased to 104,528,000 lbs., or more than quadruple that of the first period. In the same time the importation of wool increased by 15,[illegible],124 lbs., and the exports decreased 6,62[illegible] lbs., or a difference comparing the two periods of 22,[illegible] lbs. for manufacturing. The importation of pig-iron has more than doubled also, apart from the large quantity manufactured in the country. The position of the manufacturing industries of C. in 1881, and the advance made during the previous 10 years, may be gathered from the following table taken from the census returns:

	1871.	1881.
Capital invested	$77,964,020	$165,302,623
Amount of yearly wages	40,851,009	59,429,002
Total value of articles produced	221,617,773	309,676,068
Hands employed	187,942	254,935

The exports of C. in 1889 were valued at $89,189,167, made up of Canadian produce, $80,272,456; other produce, $8,916,711. The Canadian produce is subdivided as follows: The mine, $4,419,170; the fisheries, $[illegible]; the forest, $[illegible]; animals and their produce, $23,894,[illegible]; agricultural produce, $13,[illegible],111; manufactures, $[illegible],911,252; miscellaneous, $[illegible].

These figures do not give an accurate idea of the total trade of C., and the same remark applies to the imports. They only embrace the outside trade, and do not include the large business which naturally takes place between the provinces. It is impossible to estimate the amount of the inter-provincial trade. The freight and passenger earnings on the various railways amounted in 1889 to about $42,149,615 for the carriage of about 17,[illegible] tons of freight and 12,15[illegible] passengers, and the canal tolls to $[illegible], for [illegible] tons of freight and [illegible] passengers, which shows the magnitude of the local carrying trade. The principal countries to which goods were exported in 1889 were Great Britain (4[illegible].6 per cent.), the United States (4[illegible] per cent.), Newfoundland, West Indies, South America and Australasia. With other countries the trade is [illegible] growing, particularly with China and Japan [illegible].

Fisheries. [illegible] the largest in the world [illegible] The [illegible] land seas [illegible] play made by C. [illegible] in 1883 attracted much attention. [illegible] sold in the Dominion markets [illegible] fresh water fisheries [illegible] and rivers supplying an abundance [illegible] both for home consumption and export, besides providing sportsmen with some of the finest salmon and trout-fishing to be found anywhere. The values of the yield of some of the principal fishes in 1889 were: Cod, $3,078,240; herring, $2,198,357; lobsters, $1,484,188; salmon, $3,141,925; mackerel (1886), $1,556,424; haddock (1886), $747,685; trout (1886), $121,180; sardines (1886), $735,642; white-fish, $685,086. Much attention has of late years been given to the development of the fisheries. The Dominion government has granted a yearly sum of $150,000 as a bounty, to be divided, according to catch, among the vessels and boats engaged in the prosecution of the sea fisheries. One result has been an increase in the number, and a great improvement in the build and outfit of fishing vessels. It has also provided fish-breeding establishments of which there are 12, in different parts of the Dominion; and millions of edible fishes are yearly hatched and placed in the rivers and lakes.

Minerals.—The exports under this head are chiefly coal, gold, copper, iron, phosphates, salt, antimony, mineral oils, and gypsum. Gold mines have been and are being worked in Nova Scotia, in Quebec, and Ontario, and largely in British Columbia, where there are yet immense fields to open up. Silver mines are being worked in Ontario; and that at Silver islet, Thunder bay (on Lake Superior), has been the richest yet discovered in C. Iron ore is found all over the Dominion. Copper has been mined to a considerable extent both in Quebec and Ontario, and the deposits of the ore are of great extent. There are very large coal deposits in Nova Scotia. The coast of British Columbia is rich in coal of a quality which commands a preference in the markets of San Francisco, notwithstanding the high duty. Coal is known to exist over a vast region stretching from 150 to 200 m. e. of the Rocky mountains, and n. from the frontier for about 1,000 miles.

Forests.—The forest products of C. constitute one of her most important sources of wealth. They find their way to all parts of the world—to the United States, to the United Kingdom, and to the Australian colonies. The Canadian saw-mills are extensive and well appointed. The industry in all its stages employs large numbers of men, as well as affording freight to railways and shipping. Among the varieties of trees are the maple (hard and soft), elm, hickory, ironwood, pine, spruce, cedar, hemlock, walnut, oak, butternut, basswood, poplar, chestnut, rowan, willow, black and white birch, and many more.

Animals and Their Produce.—Exports under this head include live animals, meat, butter, cheese, eggs, furs, hides and skins, and wool, and form the largest item in the classification of the exports. It is a trade which has been largely the growth of recent years. In 1874 the total exports of cattle were 39,623 head, of which only 455 went to Great Britain. In 1888 the number had increased to 116,274, of which 63,622, valued at $5,444,355, were shipped to Great Britain. In addition, the exports under this head included 18,779 horses and [illegible] sheep. The cattle are of good quality, many pedigreed and fancy priced cattle having been imported for the improvement of the flocks and herds during the last ten years. Herds of Shorthorns, Herefords, Galloways, Polled Angus, and Jerseys are to be found in many parts of C. Great progress has been made in dairy-farming, and the factory system has been latterly introduced in the older provinces. There are factories for the manufacture of cheese, and creameries for the manufacture of butter. The export of Canadian cheese to the United Kingdom has largely increased within the last few years: in 1868 the total was only 1,577,072 lbs., and in 1888 it was [illegible] lbs., valued at $[illegible]. The export of butter was nearly [illegible] lbs. In 1888 poultry to the value of $107,909 were shipped, largely to the United States; and nearly 13,000,000 dozens of eggs. Bee-keeping is profitably carried on in many parts of the Dominion.

Agricultural Products.—The agricultural exports include general farm produce and fruit. There is a Dominion department of agriculture, with a member of the cabinet at its head, and legislative authority has recently been given for the establishment of five government experimental farms in various parts of the Dominion—one at Ottawa, for Ontario and Quebec; one each for the maritime provinces, Manitoba, the n.w. territories, and British Columbia—which are expected to prove valuable to the farming community. Agriculture is the leading industry of the country, and must remain so for a long time to come, as millions of acres of land there have still to be [illegible] and tilled. With a population of about 5,000,000, about [illegible] of farm produce, including animals and their products, and agricultural produce, was exported in 1889, in addition to that required for home consumption. Mixed farming is generally carried on, the growing of grain and fruit, stock raising, and dairy-farming being more or less combined.

Manufactures. Since 1878 the development in manufacturing industries has been more marked than during any previous period in the industrial history of C. The statistics of the increase in the capital invested, number of hands employed, etc., given under the heading of imports, show the advance that took place in the decade from 1871 to 1881. A partial investigation made in 1884-85 indicated that in the older provinces there had been in 1884 an estimated increase over 1878 of 75 per cent. in the number of hands employed, in the amount of wages paid, and in the capital invested; while in the value of the goods produced the increase had been 56 per cent.

Banking. The paid up capital invested in banking in 1888, Jan. 31, was $60,355,883, and the deposits amounted to $106,251,330, as against $32,808,104 in 1868. In addition to the ordinary chartered banks, there are the post office and and government savings banks, the deposits in which have increased from $1,422,047 in 1868 to $40,822,275 in 1887, the number of depositors being now estimated at 120,000. These figures do not include the deposits in one or two chartered savings banks, or investments in the various loan, friendly, and building societies.

Fiscal Policy. The percentage of duty on the total value of goods imported, dutiable and free, in 1868 was 12 per cent.; in 1878 it was 13.74; in 1879 the 'national policy' was inaugurated, and a general increase in the tariff sanctioned by parliament. In 1880 the percentage was 16.34, and in 1887 it was [illegible]. Too much significance must not be attached to these latter figures, as, although some of the duties have been increased, many reductions have also been made, and many articles added to the free list. In 1880 the articles imported duty free formed 20 per cent. of the total imports and in 1887 no less than 35 per cent. The amount of customs duty paid per head of population was 15s. 9d. and 19s. in the respective years. It is right to remark that no restrictions exist as to trade between the different provinces, and that free trade prevails within the boundaries of the dominion.

Shipping. The following is the number of vessels owned in the dominion in 1889: Number of vessels, [illegible]; number of steamers, [illegible]; gross tonnage steamers, [illegible]; total net tonnage, 1,040,481. C. stands fifth on the list of the mercantile countries of the world, the difference in the tonnage and that of Germany, which occupies the fourth place, being very slight. Assuming the average value to be $30 per ton, the value of the registered tonnage of C. would be $31,214,430.

Railways. There are about 13,325 m. of railway in C. at the present time. The three principal systems are the Canadian Pacific (4,319 m.), Grand Trunk ([illegible] m.), and the Intercolonial (1,190 m.). The balance of the mileage is made up of smaller lines in the various provinces. The total paid up capital at the end of 1889 was [illegible], to which the dominion and local governments had contributed, in one way or another, [illegible]. The number of passengers carried in 1889 was about [illegible], and the freight [illegible] tons. The Canadian Pacific rw. is now complete from ocean to ocean. Its construction was one of the conditions under which British Columbia entered the confederation in 1871. It was found impossible to complete it by 1881, the time fixed, and the date was extended to 1891. Prior to 1880 the work was undertaken by the government; but in that year the Canadian Pacific Railway Co. was formed, and undertook to complete the line by 1891, in consideration of a subsidy of $25,000,000, 25,000,000 acres of land, and the transfer of those portions of the line already under construction by the government ([illegible] m.) when completed. The railway was finished in 1885, Dec., nearly six years before the stipulated time, and through trains are now running daily from the Atlantic to the Pacific. By this route the distance from Liverpool to Japan and China is shorter by 1,000 m. than via New York and San Francisco. The construction of this railway and the Intercolonial has cost C. about $120,000,000. The railway is not only of importance locally to C., as connecting the various provinces and opening up the vast new territories for settlement, but it is of imperial importance as providing a new route to Australasia and the East, available for commercial and for military and naval purposes. Lines of steamers are running between British Columbia and China and Japan, and the Imperial and Canadian governments having agreed to a subsidy of [illegible] a year, two-thirds being contributed by the former and one-third by the latter, for 10 years, the service is to be improved and accelerated. Negotiations were taking place in 1888 between the governments of C. and Australasia, with a view to the establishment of steamship communication between Vancouver, New Zealand, and Australia. In addition, a proposal was also laid before the various colonial governments in 1886 and 1887 for the laying of a cable between British Columbia, New Zealand, and New South Wales. The matter was discussed at the Colonial conference in 1887, and a unanimous resolution passed recognizing the great importance of the work. As a matter of fact, the Japanese mail was delivered in London via this route in far the quickest time ever known, and recently the British government has tested the route by sending the Indian reliefs over it.

Canals and River Systems. The canals of C. and the river improvements have cost a large sum of money, and they are works of great utility and importance. The channel of the St. Lawrence has been deepened, and vessels of 5,000 and 6,000 tons now reach Montreal, [illegible] m. from the Atlantic ocean. There are nearly five miles of wharves at this city, and every facility for loading and discharging ships. At Quebec, also, there are facilities for an immense shipping-trade. There is a system of canals to overcome the St. Lawrence rapids, and the difference in the levels of the great lakes (600 ft.), which affords uninterrupted navigation from the straits of Belleisle to the head of Lake Superior, a distance of 2,384 m., of which 71¾ m. are canals. The locks range from 200 to 270 ft. long by 45 ft. wide; some are 14 ft. deep, others only 9 ft., but the intention is to make them of a uniform depth of 14 ft. A canal system connects the river Ottawa and Montreal, another opens navigation between Ottawa and Kingston, and another between Lake Champlain and the St. Lawrence. In Nova Scotia the St. Peter's canal connects St. Peter's bay with the Bras d'Or lakes. There is also navigation on the lakes in the n.w. and on the rivers Assiniboine and Saskatchewan, the latter being navigable for over 1,000 m.

Hudson Bay Route. In 1884-5-6 the Canadian government despatched expeditions with a view to ascertain the length of time during which the Hudson strait was navigable. The expeditions were under the command of Lieut. Gordon, R. N., and H.M.S. Alert was placed by Her Majesty's government at the disposal of Canada for that and other purposes. The result of the investigations was that the strait was considered to be navigable from the first week in July to the first week in October in ordinary seasons for specially built ships. By this route, the distance between Great Britain and Manitoba and the n.w. territories would be much shortened, Fort Churchill being nearer to Liverpool than New York.

Revenue, Expenditure, and Public Debt. The revenue for the year ending 1889 June 30, was $38,782,870, and the expenditure $36,917,835. The expenditure in the two previous years exceeded the receipts by [illegible], mainly owing to unforeseen expenses in connection with the n.w. rebellion in 1885. As against these deficits it may be stated that there was a surplus of revenue in the four previous years, amounting in all to [illegible]. Taxation, as represented by the customs and excise duties, amounted in 1889 to [illegible], or $6.12 per head, as compared with [illegible] in the United Kingdom, $6.90 in the Cape of Good Hope, and [illegible] in Australasia (1888). The gross amount of the public debt on 1889 July 1, was [illegible], and on 1890, Jan. 1, [illegible]; deducting the assets, [illegible], the net debt was [illegible], or about [illegible] per head; [illegible] are payable [illegible]. The balance of the debt represents liabilities payable [illegible]. The net debt since confederation has increased by $151,-[illegible]; [illegible] that period the Canadian government have expended [illegible] on public improvements. This may be divided as follows: Debts allowed to provinces, [illegible]; Dominion lands, [illegible]; [illegible] public works, including canals, lighthouses, [illegible], [illegible]; n.w. territories, [illegible]; [illegible]; Intercolonial rw., [illegible]; other [illegible]. [illegible] government securities are a favorite investment in the British market.

[illegible] The constitution of C. is contained in the British North America act of [illegible]. The government of C. is federal. The [illegible] and they also elect the federal parliament [illegible]. The executive government and authority [illegible] the Queen. The governor-general for the time being is [illegible] of the Canadian government [illegible] in the name of Her Majesty, with [illegible] of a council, known as the cabinet, consisting of the heads of the various departments, which is responsible to the house of commons. The Dominion parliament consists of an upper house, styled the senate (80 members), and the house of commons (215 members). The senators are nominated for life by the governor in council. The commons are elected every five years, unless the house be dissolved before its course has run. There is a special franchise distinct from that in force for the provincial assemblies. Both are exceedingly liberal and extensive. The procedure is very much the same as in the imperial parliament at Westminster. At the head of each of the provinces is a lieutenant-governor, appointed by the governor in council, and paid by the Dominion, who is the medium of communication between the provinces and the federal government. In most of the provinces there are two houses of legislature, but in Ontario, Manitoba, and British Columbia there are only single houses. This, however, is a matter entirely within the control of the local authorities, as are also the election of members, franchise qualifications, and alteration of electoral districts; but the extreme length of the local parliaments is defined as four years. The executive in each province is responsible to the local legislature. The n.w. territories are administered by a lieutenant-governor and a council, partly elected and partly nominated. The powers of the respective Dominion and provincial parliaments, and the contributions to the revenues of the latter from the Dominion treasury, are defined by the original act and amending acts. Legislation upon local matters is delegated, as a general rule, to the provinces. There is also a very perfect system of municipal government throughout the Dominion. Both the counties and townships have their local councils, which regulate the taxation for roads, schools, and other purposes, so that every man directly votes for the taxes he is called upon to pay. Local taxation is very light.

History.—In 1534 Jacques Cartier, a French navigator, a native of St. Malo, set out from that port with two small vessels of 20 tons each, landed on the shores of Gaspé (now part of the province of Quebec), and took possession of the country in the name of his sovereign, Francis I. He went again in the following year (1535), passed up the gulf and river, which he named the St. Lawrence, and reached Stadaconé, the site of the present city of Quebec. Continuing his voyage, he arrived at Hochelaga, another Indian town, and gave it the name of Mont Royal, since corrupted into Montreal. After passing the winter at Stadaconé he returned to France. But little or nothing was done to promote the colonization of the country until 1608, when Samuel de Champlain, a Frenchman of gentle birth, maritime and military experience, and much religious enthusiasm, visited C. for the third time, with the object of extending Christianity and developing trade and commerce, and founded the city of Quebec, the name of which is said to be derived from an Indian word *kebek*, 'the rock.' The control of the immense region, extending e. to Acadia (Nova Scotia), w. to Lake Superior, and down the Mississippi as far as the gulf of Mexico, was from this time until 1763 claimed by France (see ACADIA). Recollet and Jesuit missionaries traversed it in all directions, suffering great hardships in their endeavors to convert the Indians. Their work was watched with much enthusiasm in France, and it is admitted that they were the first explorers of the country and the pioneers of civilization in the far west.

The claims of France were not, however, undisputed, as is shown by the grant of a charter in 1670 by Charles II. to Prince Rupert and his company, known ever since as the Hudson Bay Co., of the exclusive right of trading in the territory watered by streams flowing into Hudson bay. As already mentioned, they gave up their exclusive rights in 1869 on certain conditions, among others, a money payment of $1,500,000 and a large grant of land. The struggle between Great Britain and France for supremacy in North America was long and bitter, but it terminated [illegible] in 1763 by the cession to the former under the treaty of Paris of Canada with all its dependencies, except the islands of St. Pierre and Miquelon, which were retained as fishing stations, but not to be fortified. Hudson bay with the adjacent territory, Nova Scotia, and Newfoundland had been previously transferred to England by the treaty of Utrecht in 1713. The population of C. in 1763 was about 70,000, of Nova Scotia, 8,000. No time was lost in [illegible] the new possession; but considerable [illegible] and it was not altogether allayed [illegible] what is known as the Quebec act. This gave the French Canadians the free exercise of their religion, and secured their civil rights, laws and customs. It annexed large territories to Quebec, including that part of the United states now forming Minnesota, Wisconsin, Michigan, Ohio, Indiana, and Illinois, which passed from Great Britain in 1783. Quebec was eventually, in 1791, divided into Upper and Lower C.; but this did not prove satisfactory in either province, leading to conflicts between the popular and elected assemblies and the nominated or official councils, and ultimately to the rebellion in 1837–38.

During the war (1812–15) between the United States and Great Britain, there were protracted operations on the Canadian frontier, and both English and French colonists united firmly on the side of the crown. The principal events of the war as it affected C. were: Gen. Hull's invasion of C. from Detroit, and his shameful retreat and surrender; the battle, finally disastrous to the Americans, of Queenstown Heights; the victory of Proctor in 1813, and the capture of York (Toronto) the same year, and the severe defeat of the Americans by the Indian chief Tecumseh; Commodore Perry's victory over Provost on Lake Erie; the battle of the Thames, in which Tecumseh was killed; and the second capture of Toronto. In 1814 were fought the indecisive battles of of Chippewa and Lundy's Lane, close to Niagara Falls, and the British were severely defeated at Plattsburg and Lake Champlain, and their squadron captured.

Race jealousies and mutual obstructiveness in legislation led to the French-Canadian rebellion of 1837–38.

The legislature of Lower C. refused to vote supplies so as to enable the affairs of the province to be carried on, unless complete control were given them over the executive. This being peremptorily refused by the imperial parliament, the colonists broke out into open revolt. In 1837, Dec. 14th, the rebels were totally defeated at St. Eustace, and their leaders fled. On Dec. 29 the steamer Caroline, laden with arms and ammunition for the insurgents, was burned by the British in United States waters. An acrimonious controversy ensued between the governments; but in the end the president forbade citizens of the United States to attack neighboring states. The insurgents, headed by Dr. Mackenzie, surrounded Toronto in 1838, Jan. 5, but were beaten off by Sir Francis Head.

Lord Durham was sent out in the spring of this year as high commissioner, and inaugurated the policy of home rule for the colonies. Although he resigned in disgust at being indirectly censured for his treatment of the prisoners, and died broken-hearted soon after, his policy was carried out, and doubtless preserved C. to the British crown. The rebels were repeatedly defeated, and in 1838, Nov. 17, a final rout at Prescott ended the rebellion.

In accordance with Lord Durham's recommendations, the two provinces were reunited in 1840 (population of Upper C., 450,000, of Lower C., 650,000), but the union was not a success politically, although it indirectly led to the great confederation in 1867. It should be mentioned that the inhabitants of Upper C. consisted largely of united empire loyalists, who remained loyal to British institutions, and who left the United States at the close of the war of independence, while those of Lower C. were almost exclusively French Canadians. The representatives from each province in the united parliament were equal in number. Upper C., however, made greater progress than Lower C. (the population in 1851 was 952,004 and 890,261 respectively, and in 1861, 1,396,091 and 1,111,566), and agitated for an additional number of members and claimed other concessions, but the demands were always opposed by the latter. The consequence was frequent legislative deadlocks and continual difficulties. Such was the state of things in 1864. It is now necessary to refer to the other colonies on the Atlantic and Pacific coasts. In 1770 St. John island (renamed Prince Edward island in 1798), and in 1784 New Brunswick, were formed out of Nova Scotia into separate colonies. In 1858, owing to the rush for gold and the influx of population, British Columbia was made a crown colony, and in 1866 Vancouver island was joined to it. In 1864 the maritime provinces were discussing the desirability of local confederation, and advantage of the opportunity was taken by C. to propose a broader scheme to cover all British North America, and after several conferences a basis of union was agreed upon which resulted in the formation of the dominion.

Since the confederation of the provinces, the chief events of importance may be put in the following tabular form:

1869. The Red river rebellion, which collapsed in 1870, Aug., on the arrival at Fort Garry of the expedition under Col. (now Lord) Wolseley.

1871. Treaty of Washington signed dealing, among other things, with the fisheries and the mutual use of certain canals.

1873. Defeat of the conservative ministry (Sir John Macdonald, premier) on Pacific r.w. question.

1877. Award of the Halifax fishery commission in favor of Great Britain of $5,500,000, as representing the value of the fishing privileges granted to the United States, over and above the concessions made to C. under the Washington treaty.

1878. Defeat of the liberal ministry (Hon. A. Mackenzie, premier).

1879. Adoption by new conservative ministry of the higher customs tariff, called the national policy, as a measure of protection against the United States fiscal policy, and to foster native industries.

1880. Contract for construction of Canadian Pacific r.w. signed. It was ratified in 1881 by parliament.

1885. Outbreak of disturbances among the half-breeds, under Louis Riel, in the Saskatchewan district, n.w. territories, in March. Suppressed in July by the force under Maj.gen. Middleton. The total force in the field was about 4,000 men of the Canadian militia. Louis Riel tried, condemned to death, and executed. Last spike of the Canadian Pacific r.w. driven (Nov. 7).

1886. The first through train for the Pacific left Montreal (June 28).

1887. Agitation in Manitoba for abolition of monopoly clauses, Canadian Pacific r.w. act. Local act passed for construction of Red River Valley r.w. to boundary line to connect with United States railways. Act disallowed by governor in council, but railway commenced notwithstanding. Injunction obtained in provincial law courts, and cessation of the work. Agreement arrived at between the British and United States governments to discuss the fishery disputes in conference at Washington. British plenipotentiaries appointed, Right Hon. J. Chamberlain, Sir Lionel Sackville West, and Sir Charles Tupper. Conference met early in December.

1888. Treaty for the settlement of the fishery disputes signed by the British and United States representatives (Feb. 15), subject to ratification by legislatures of respective countries. Recognized right of C. to fisheries in three mile limit, which was to follow the coast-line, except (*a*) in the case of bays ten miles wide and under, when the line was to be drawn from headland to headland, and (*b*) in the case of certain bays specially exempted from the operation of the treaty. United States fishing vessels to be allowed to land, sell, and tranship cargoes only in cases of distress; may enter the ports for wood, water, shelter, and repairs; and, on obtaining a license (given without charge), to purchase casual supplies and stores (excepting bait). Concessions are also to be made as to reporting at customs ports, and as pilot, harbor, light, and other dues. If United States agree at any time to admit Canadian fish and certain fish products free of duty, then vessels may in addition, so long as privilege remains in force, land, sell, and tranship their cargoes, and also purchase bait and all other supplies. The treaty was to be ratified within two years, and, in the mean time, to avoid friction a *modus vivendi* was offered, providing that United States fishing vessels might have all the privileges mentioned above, on payment of a tonnage license fee of $1.50 per ton. The discussion of commercial union between the United States and C. in the dominion house of commons closed on April 7. The motion for unrestricted reciprocity was rejected by 124 to 67 votes. The government amendment carried was to the effect that C. was desirous in the future as in the past, of cultivating and extending trade relations with the United States in so far as it might not conflict with the national policy of C. The government arranged with the Canadian Pacific Railway Co. for cancellation of monopoly clauses, on terms satisfactory to Manitoba. Conference to take place at Ottawa, in June, between C. and Newfoundland, to discuss the question of the entry of the latter into the confederation.

The governors-generals of C., since 1867, have been: Lord Monck (1867-8), Lord Lisgar (1868-72), Lord Dufferin (1872-8), Lord Lorne (1878-83), Lord Lansdowne (1883-8), and Lord Stanley of Preston (1888).

The progress of C. since confederation has been very rapid, but its varied resources are still practically undeveloped. Recent events, however, particularly the extension of railways and the completion of the trans-continental system, have placed C. in a position of advantage which she had not previously occupied. In consequence, the volume of immigration to the immense areas of unoccupied fertile lands is increasing; the agricultural, manufacturing, and mining industries are becoming more important every year; trade and commerce is expanding both at home and abroad; and the wealth of the people is apparently becoming greater. Altogether there seems to be ample justification for the satisfaction and pride with which Canadians contemplate the present condition of the Dominion and the future that is undoubtedly before the country.

Literature. Canada has been making steady progress in literature, and the future is full of promise in this respect; but as yet few native writers, except Judge Haliburton (Sam Slick), Sir William Edmond Logan (geology), Sir William Dawson (geology and natural history), Mr. Alpheus Todd, Mr. Grant Allen, and Mr. G. J. Romanes, have achieved a wide reputation. Mr. Fréchette, of Quebec, obtained the distinction of being crowned (1880) the poet of the year by the French Academy. Sir Daniel Wilson (Prehistoric Man), and Mr. Goldwin Smith (history), are Canadians by adoption. In fiction much has been attempted, hitherto without any great success. Many historical works of value have been published; but these relate for the most part to the various provinces and to the several nationalities established within the Dominion. In miscellaneous literature much more has been done; and the contributions of Canadians to the magazines both of the United States and of Great Britain are yearly becoming more frequent and more important.

Besides works cited in Morgan's Bibliotheca Canadensis (Ottawa, 1867), reference may be made to the Histories of Canada by Faillon (French, 2 vols. Mont. 1865), Tuttle (Boston, 1878), Garneau (French, 4 vols. Mont. 1882), Dent (Toronto, 1883), Réveilland (French, 1884), Bryce (1887), and Kingsford (8 vols. 1887 *et seq.*). See also Parkman's works (1852-84); Confederation Debates (1865); Todd's Parliamentary Government in the British Colonies (Boston, 1880); Her Majesty's Colonies (Colonial and Indian Exhibition Hand-book, 1886); Grant's Ocean to Ocean (1873), and Picturesque Canada (2 vols. Toronto, 1884); Ryerson's Loyalists of America (1880), and Story of My Life (1883); Sandford Fleming, Intercolonial Railway (1876); Pacific Railway (1880); the Marquis of Lorne's Canadian Life and Scenery (1885); Emile Petitot, Traditions Indiennes du Canada Nordouest (Paris, 1886); Silver's Handbook; the annual Statistical Abstract and Record of Canada (first published 1886); Clapin, La France Transatlantique (Paris, 1885); Lovell's Gazetteer and History of Canada (1887-89).

CAPE COLONY, *kāp kŏl'ŏnĭ*, officially COLONY OF THE CAPE OF GOOD HOPE, is a British colony situated at the s. extremity of the African continent. It is bounded on the n.w. by Great Namaqualand; on the n. by British Bechuanaland, the Orange Free State, and British Basutoland; on the s. by the Southern ocean; on the e. by Pondoland and Natal; and on the w. by the Atlantic ocean. The total area of the C. C. (1888) is said to be 233,430 sq. m.

The C. C. is deficient in navigable rivers, and in gulfs or arms of the sea stretching inland. Generally speaking, the bays have wide mouths and not much depth of water. Perhaps the best and safest natural harbor on the colonial coast is afforded by Saldanha bay; but at present the country in its neighborhood is nearly unoccupied, the supply of water being deficient. St. Helena bay, Lambert's bay, and Donkin's bay are places on the w. coast where vessels occasionally call. Port Nolloth, on the n.w. coast, is where most of the copper ore is shipped from the mines of Little Namaqualand. Table bay is the principal colonial harbor. It is naturally much exposed on the n.w.; but the Table Bay Harbor Board, which was formed in 1860, has shown great energy and ability in erecting a breakwater, and in constructing docks for large shipping, including graving-docks (see CAPETOWN). False bay, lying to the e. of the Cape of Good Hope, includes Simon's bay on its w. side, which is the imperial naval station. This is a safe anchorage, and there is a slip for the repair of vessels; but trade, of course, leads merchantmen to Table bay. The necessary railway communication between Capetown and Simon's Town is completed as far as Kalk bay. Her Majesty's government and the government of the colony are co-operating in the works of defense which are at present in progress at these important imperial possessions, which, on account of their situation are of so much consequence to the naval and mercantile interests of the British empire. At Mossel bay there is a good anchorage for ships, and there are jetties, steam cranes and other conveniences for landing and loading cargoes. There is a local harbor board, but no extensive works have been as yet undertaken. Farther e., at the mouth of the Knysna river, there is a large lagoon, the s. extremity of which is connected with the ocean. The entrance is only 180 yds. in width, and is between very high headlands, so that a sailing vessel could not enter unless the wind was blowing in, except, of course, by the aid of a steam tug. There are 18 feet of water on the bar in its shallowest part, so that large vessels can enter. Algoa bay, with Port Elizabeth on its w. shore, has been the scene of great energy and enterprise since the founding of the town, after the arrival in the colony of the English settlers in 1820 (see PORT ELIZABETH). At Port Alfred and at East London considerable sums of public money have been spent with the view to improve the harbors. The works are still in progress. St. John's river is a port in Pondoland purchased in 1878 from the Pondo chief, and annexed to the colony in 1884.

Running parallel to the coast-line of the C. C., and at an average distance from it of about 150 m., there is a range of mountains which form a watershed of the country. This is known as the Stormberg, the Sneeuberg, the Nieuwveld mountains, the Roggeveld mountains, and Kamiesberg, as it stretches across the colony in s.w., w., and n.w. directions. The e. provinces of the colony, along with the Cape peninsula, are on the whole better watered than the interior portion of the w. province. Grassy plains, well-wooded river courses, and mountain glens are to be found throughout the e. part of the colony, while in the w. and part of the midland district the country is covered with the Karroo bush, and the flat-topped hills stand out grim and bare without a single tree or bush to cover their rugged outlines. These Karroo bushes, although yielding a dreary enough prospect to the traveller, are of great value to the sheep-farmers, and where you suppose you are passing through a wilderness, you are in reality surrounded by large sheep-farms. The s. part of the colony presents some beautiful scenery, but it will be conceded that the Stockenstrom, Bedford, and other e. districts are more beautiful still.

Climate. The climate of the C. C. and of the interior of s. Africa generally is one of the finest in the world and eminently suited for Europeans. As a health resort the Cape has long been favorably known; and increased attention has been given to it in recent years. The climate for a certain number of miles inland along the coast is more or less affected by the moisture from the ocean. Here irrigation of the ground by farmers as a rule is not necessary. The climate on the coast is superior to that of England. But it is after the traveller leaves this well-watered belt, where chest complaint, al though infrequent, is nevertheless occasionally found among the natives, and when he ascends the higher inland plateau, that he finds himself in a rare and yet balmy atmosphere which is exhilarating to the healthy, and most beneficial to those subject to lung-complaints, especially if they have arrived in the country at a sufficiently early stage. Even when organic disease had set in, there have been well-authenticated cases in which it has been arrested. Members of families hereditarily inclined to this disease, who take up their abode in S. Africa have healthy children. In the physique the European has lost nothing by residence in S. Africa for 200 years.

The following table shows the temperature, etc., on the coast, at Wynberg, near Capetown, and at Port Elizabeth; at a midland town, Grahamstown; and at two stations on the higher plateau—Aliwal North and Colesberg Bridge, on the Orange river:

		Mean Temp.	Absol. Max.	Absol. Min.	Mean of Max.	Mean of Min.	Mean range.	Rain.	Days on which rain fell.
		°	°	°	°	°	°	in.	No.
COAST.									
Wynberg, near Capetown......	Summer	62.8	96.0	42.0	76.2	65.2	11.0	34.62	92
	Winter	55.3	92.0	41.5	66.4	49.2	17.2	....	..
Port Elizabeth....	Summer	66.8	94.5	48.5	75.0	60.4	14.6	19.99	49
	Winter	59.5	97.5	43.9	67.4	53.3	14.1	.....	..
MIDLAND.									
Grahamstown.... (alt. 1,800 ft.)	Summer	63.1	99.0	44.9	74.3	56.6	17.7	29.59	77
	Winter	53.1	89.0	35.0	63.7	50.9	12.8	.....	..
ELEVATED PLATEAU									
Aliwal North.... (alt. 4,330 ft.)	Summer	67.4	102.0	41.0	88.2	53.8	34.4	22.86	89
	Winter	48.8	84.7	24.0	62.6	31.4	31.2	.....	..
Colesberg Bridge.. (alt. 3,600 ft.)	Summer	[illegible]	101.0	45.0	85.3	54.9	30.4	18.35	69
	Winter	41.5	84.5	23.0	66.8	39.2	27.6	.....	..

Population. The last census of the C. C. was taken in 1875. Several additions of territory have been made since that time, including Griqualand West and [illegible]. In 1880 the estimated population of the whole colony was: whites, [illegible]; natives, [illegible]; total, 1,108,-825. Unlike the aborigines of some other parts of the world, the natives of the C. C. are steadily increasing. For instance the Hottentots at the commencement of the present century did not number 15,000 according to contemporary estimates. In [illegible] they were estimated at [illegible], in the census of [illegible] they were found to number [illegible], and in [illegible] they numbered [illegible]. Guided by comparative philology we find that within the C. C., as well as beyond its borders, there are two families of natives: the yellow coloured and oblique-eyed [illegible] peoples, and the darker and far more numerous Bantu family. [illegible] Hottentots, Korannas, Namaquas and [illegible]. The [illegible] languages abound in [illegible] and are [illegible]. The meaning of certain words is changed by the tone in which it is spoken, as in Chinese. In their pastoral [illegible] the Hottentots [illegible] resembled the Tartars or Mongolians. [illegible] were the [illegible] of the [illegible], which [illegible] no woman might enter a cattle pen [illegible]; should she do so, the pen had become [illegible] and had to be cleansed by the priest. The [illegible] are [illegible], a word in which they [illegible]. The Bantus are subdivided into [illegible], known to Europeans as Kaffirs, Zulus, Basutos, Bechuanas, [illegible], Mashonas, etc. The Bantu family [illegible] beyond the equator. In [illegible] according to the [illegible] census, the [illegible] of races found in the colony was as follows: Whites, [illegible] per cent.; Malays, [illegible] per cent.; [illegible] per cent.; Bantu, including Fingo, Kaffir and Bechuana, 59.89 per cent.; mixed and other races, 12.10 per cent. The European population of the C. C. is made up as follows: The earliest settlers were [illegible] Europe, being [illegible]. To these were added [illegible]. English and Scotch settlers were [illegible] the German legion, after the [illegible]. The discovery of diamonds led to a rush of European population to what is now the n. part of the colony

Griqualand West. Between 1873–84, 23,337 immigrants were introduced into the colony under government auspices; but this work has been in abeyance since 1884. The e. province of the colony is, roughly speaking, an English country, agriculture and commerce being alike in English colonists' hands. The w. part is mainly occupied by Dutch-speaking descendants of the early settlers. In the e. province we find a Dutch-speaking minority living happily among the English; and in the w. province there is a corresponding minority of English farmers living among their Dutch-speaking neighbors. The business of the colony has always required a higher education than, until recently, was within the reach of the Cape Colonist, and was thus almost entirely in the hands of 'uitlanders' or foreigners—Europeans. There is, however, an increasing minority of Dutch-speaking colonists now in business, both on the sea-board and in the interior of the colony. The population of Capetown and its suburbs is about 70,000; of Port Elizabeth, [illegible]; of Kimberley, [illegible]; of Beaconsfield, 21,619; of Grahamstown, 8,261; of King William's Town, 5,386; of Woodstock, 5,720; of East London, 5,903; of Graaff Reinet, 5,622; and of Stellenbosch, 5,055.

Irrigation, Railways, Etc. Beyond the belt of country skirting the sea-coast agriculture can only be successful where there is a supply of water for irrigation. The colonial government in 1877 passed an act which made provision for the constitution of irrigation boards for carrying out irrigation works, and in 1879 the provisions of the act were extended to municipal bodies. In connection with these acts money can be borrowed on reasonable terms for the purpose of irrigation, provided the scheme in question has the support of an engineer approved by government. Van Wyk's Vley, in the dry division of Carnarvon, is by far the most important irrigation work which has been constructed in S. Africa. The reservoir drains 400 sq. m.; but so scanty is the rainfall that in 1883 and 1884 it did not exceed 4 in. per annum. The reservoir when full will hold 35,000,000,000 gallons, and the extent of the water-surface will be 19 sq. m., with an average depth of over 40 ft. The total cost of the work, exclusive of land, has been over $175,000. An extensive fertile country close to the reservoir is now capable of cultivation. Elsewhere in the colony similar operations have been carried on; but this work is still in its infancy, and is destined to change the face of the country.

Road-making was begun at an early date by the English governors of the Cape, superseding the wagon-tracks, which were then the only roads. It is computed that there are now [illegible] m. of constructed main road throughout the colony. Four bridges erected by the colonial government span the Orange river at different places, so that trade with the interior is no longer liable to the annual interruption caused by the flooding of a river which drains some 400,000 sq. m. of country. The bridge at Hopetown is [illegible] ft. long, and cost [illegible]; that at Colesberg is [illegible] ft. long, and cost [illegible]. At Bethulie the bridge is 1,450 ft. long, and cost [illegible]; at Aliwal North the bridge is 860 ft. long, and cost [illegible]. Another bridge of similar construction spans the Kei river, and unites the colony with the native territory called the Transkei. So impressed were the Fingoes with the utility of the work that they contributed voluntarily [illegible] toward making the approaches to the bridge. A good bridge, built with government sanction by the enterprise of a company, spans the Vaal river at Barkly West, keeping open the n. highway of commerce at all seasons.

Telegraphs are in the hands of the Cape government. Almost every town is now in communication with Capetown. Up to 1884 the total expenditure on purchase and construction of lines was [illegible]. In [illegible] there were [illegible] of wire and in 1889 [illegible] m. of line, with 278 offices and [illegible] messages. The maximum cost of a telegram of [illegible] words between the extreme points of the system—[illegible] m.—is 24 cents, and [illegible] for every five additional words.

Sir George Grey turned the first sod of the Cape railways in 1859. The line was between Capetown and Wellington, 58 m. in length, and was constructed by an English company, under a guarantee of a rate of interest of 6 per cent. [illegible]. This and two lines commenced by private companies [illegible] passed by purchase into the hands of the government. The discovery of the diamond mines gave a great impetus to [illegible]. As these were all constructed by government with consent of the colonial parliament, no single line was pushed forward to [illegible] which would benefit one port in particular, but [illegible] were pushed forward from Port Elizabeth and from East London, as well as from Capetown. Railway construction had come to a standstill in 1885, while Kimberley and Hopetown were unconnected by rail. In connection with imperial operations in Bechuanaland, Her Majesty's imperial government offered to the Cape government a loan of money on favorable terms for the completion of this highly important part of the railway system. The railway to Kimberley was completed before the end of 1885. The mileage of the railways in 1889 was 1,6[illegible] (divided into a western system, 718 m.; midland system, 589 m.; eastern system, 292 m.); this is exclusive of [illegible] m. of railroad privately owned. The number of passengers carried in 1889 was [illegible], and tons of freight 541,641.

There were at the end of 1889, 762 postal receptacles; 13,5[illegible]7,243 letters, and 6,879,457 newspapers were posted.

Products and Industries. The chief export from the C. C. is wool. This industry may be said to date from the time that the colony came into the hands of Britain, the sheep which before that time were owned by the Dutch colonists being the native sheep, which is distinguished by its large tail, and by the hair which it has on its back instead of wool. Cattle are also extensively raised, especially in the grassy districts of the e. province. The Hottentots and Kaffirs were found in possession of cattle, which were indeed the first articles of barter between the early agents of the Dutch East India Co. and the tribes in the neighborhood of Table bay. Pneumonia, known as 'lung sickness,' was introduced from Holland in 1857, and has never since been eradicated. In a country where the grazing grounds are not fenced, and where the cattle are frequently penned together during the night, there are peculiar facilities for spreading the disease, which has found its way as far n. as Matabeleland. Inoculation as a preventive of pneumonia is practiced with success, a piece of diseased lung, or of the virus from it, being introduced into the tip of the tail of the animal which is operated upon. The cattle ranching capacities of the country have not been fully tested: few, if any, wells have yet been sunk for this purpose, and little has been done in the way of inclosing cattle-runs, as in Australia.

Horses were introduced at an early date by the Dutch, to assist them in their operations against the Hottentots. They have not been used in agricultural work by the Dutch colonists, the ox doing all the heavy farm work. The C. C. horse, however, although small, is a hardy and capable animal with great power of endurance. In the n. parts of the colony, and more especially in the countries beyond the colony, horses are subject during the summer months to a climatic disease known to every one as 'the horse sickness.' It is often very deadly and very rapid in its development. Of those attacked by this disease a small proportion recover; these are no longer liable to it, and are known as 'salted' horses. Horses reared in a district liable to this disease do not suffer so severely as horses introduced into it; so that the horse will no doubt be acclimatized not only throughout the colony but throughout s. Africa.

Ostrich feathers have long been an article of export from the C. C. For many years they were obtained at the expense of the death of the birds, but in 1864 [illegible] at the C. C., and is now one of the leading industries. Ostrich feathers are so beautiful that they will probably always find favor with some people; yet so inexorable is fashion that the demand fell off very much when small birds and birds' wings were [illegible] by leaders of ladies' fashions as [illegible]. The feathers of the wild bird are [illegible] from those of the tame bird, and are [illegible] in the feather trade. In 1865 there were only 80 tame ostriches in the colony. It is computed that in 1887 there were not less than [illegible]. The highest money value of the [illegible] was reached in 1882, when it was $[illegible], for [illegible] lbs. of feathers of all classes. In 1888 the quantity exported was [illegible], but prices having fallen, for this only $[illegible]49,216 were obtained.

In 1880-85 titles were issued [illegible] acres of land. Up [illegible] leaving [illegible] acres [illegible] about 18,000 acres and [illegible] of wine and [illegible] bushels, of potatoes [illegible] lbs. of tobacco [illegible]. There were in the colony in 1890 about [illegible] head of cattle, 13,2[illegible]2,779 sheep, 4,7[illegible]7,921 goats, 313,747 horses, [illegible] and 114,411 ostriches.

The wild animals [illegible] numerous and varied, have [illegible] disappeared. A few elephants and buffaloes are still preserved in the Knysna and Zitzikama forests, but the hippopotamus, rhinoceros, giraffe, eland, quagga, gnu, and other large game, are, with the lion, no longer to be seen within the C. C. The beautiful springbok and smaller antelopes are still found, with baboons, monkeys, wild cats, porcupines, jerboas, conies, ant-eaters; as also tiger-cats, leopards, jackals, and wild dogs. Whales have entirely disappeared from the coast, and few seals remain. The variety of birds is also great, and some are peculiar, such as the secretary-bird, the honey-bird, the weaver-bird, and the ostrich. Reptiles still abound; the alligator is chiefly found beyond the colony, but the iguana, the cobra di capello, puff adder, and other snakes are found in the colony. Insect life is also abundant. Flights of locusts and swarms of caterpillars occasionally pass through a district. The honey-bee is extensively found even in desert parts; the 'white ant' (termites) covers the face of the land with its habitations, which are from 2 to 4 ft. in height.

The flora of the Cape has long been a subject of great interest. It is probable that no single country in the world has contributed so largely to European conservatories and gardens as the Cape of Good Hope—sending such handsome flowering shrubs as the pelargoniums, heaths, proteas, and the lovely bulbous plants of irideae, amaryllideae, and liliaceae. Similar to the continent of Australia in many respects, s. Africa differs from it in this, that it is, relatively to area, much richer in its flora than Australia. Several plants are of high medicinal value. Botanists divide s. Africa as follows: Tropical region, from Algoa bay to Delagoa bay on the s.e. coast; s.w. region, from Oliphant's river to Port Elizabeth; Karoo region; composite region, from Beaufort w. not quite to the Orange river; and this is followed by the Kalahari or desert region.

Viticulture was introduced by the early Dutch settlers at the Cape in 1653, and in 1688 this industry was further developed by the Huguenot refugees. The climate of the s.w. part of the colony is said to excel that of any other country for viticulture; only certain parts of California and of s. France enjoy a climate similar, but not equal, to that of the s.w. part of the C. C. The productive power of the Cape vineyards greatly exceeds that of any other country in the world, and the quality of the juice of the Cape grapes is also superior to that of the European grapes. While 10,000 vines in France produced 401½ gals.; Germany, 528 gals.; Switzerland, 924 gals.; United States, 310 gals.; Australia, [illegible] gals.; the coast districts of the C. C. produced [illegible] gals., and the inland districts [illegible] gals. It is said that many growers in the inland districts obtain annually as much as 5 leaguers (1 leaguer = 127 imperial gals.), or little more than than [illegible] hectolitres, from 1,000 vines, which amounts to the enormous yield of [illegible] gals. per 10,000 vines. Hitherto the preparation of Cape wines has been so generally defective that the excellent exceptions to this rule have been swamped under the epithet 'Cape wines.' With such marvellous natural advantages to begin with, it is quite evident that Cape wines and Cape raisins must yet take a high place in general estimation.

Tobacco is extensively grown in certain districts, but not in sufficient quantity to meet the demands of the colony. Dagga, or wild hemp, is poisonous, and was smoked by the natives before tobacco was introduced among them. The climate of the colony is favorable to the growth of fruit. Besides the indigenous 'Cape gooseberry,' apples, pears, figs, apricots, peaches, oranges, [illegible], Mandarin oranges, limes, pomegranates, [illegible], walnuts, and almonds are to be found in the orchards and gardens of the colony. Preserving fruit, as practiced in America, might be extensively carried out in s. Africa.

Manufactures have not as yet been extensively developed. The timber of the colony is suited for wagon-making and for articles of furniture, and these trades have been largely carried on. A commencement has been made in the manufacture of woolen fabrics. [illegible] at Capetown, Port Elizabeth, and [illegible] leather and [illegible] by the old colonial families at their homes. [illegible] the coast. The value of [illegible] exported in [illegible] was $78,600. Valuable deposits of guano are found on the small islands along the w. coast of the colony. The annual revenue derived from leasing those guano islands was $31,5[illegible] in 1887.

The discovery of diamonds in the Hopetown district of the colony [illegible]

C. C. and on South Africa generally. No diamond mine has been found in Hopetown district, but diamonds were found along the Vaal river for a considerable distance and on both banks of the river. The triangle between the junction of the Vaal and the Hart river yielded a good many diamonds to the early diggers, who spread themselves over the whole country prospecting, and who were assisted in their efforts by the natives, who collected all kinds of pebbles in the hope that the white man would buy them. In 1870 there were some 10,000 diggers on the Vaal river between Hebron and Schmelo—the majority working between Klip-drift, now Barkly West, and the junction of the Vaal and Hart rivers. In the end of 1870 the 'dry diggings' were discovered at a place called Du Toit's Pan, about half way between the Vaal and Modder rivers. In 1871 diamonds were discovered on a *kopje*, or conical hill, a little over two miles from Du Toit's Pan. A 'rush' of diggers at once took place; 'claims' were selected and marked out; and in the course of time the whole hill was removed from its place, and diamonds being found in the hard 'blue stuff' which was at first taken for stone, operations were carried on below the level of the surrounding country till a deep irregular basin shaped quarry or open mine has taken the place of the former kopje or hill. The original area inclosed for the mine was about 11 statute acres; but successive slips of loose earth on the sides—the removal of which from the workings has entailed immense outlay—have widened the area, so that the mine now covers some 25 or thirty acres. Round this mine—the richest in the world—the town of Kimberley has been formed, first in canvas, then in corrugated iron, and afterward in well built and substantial houses. There was not a drop of water near this mine when it was discovered, but wells were sunk, water found, and sold to the diggers by the bucket and by the cask. For some years the town of Kimberley has enjoyed a full supply of water brought in piping from the Vaal river some twenty miles distant. This was a work of great enterprise and skill, and was successfully carried out by a joint stock company. The successful well sinking at Kimberley gave an impetus throughout many parts of the colony to this method of obtaining a supply of water. At first the health of 'the camp' was not good, a low fever—climatic and typhoid—prevailed. But latterly improved drainage, plentiful supply of water, with abundance of fruit and vegetables by the railway (which reached Kimberley in 1885), have combined to render the town nearly as healthy as the salubrious country by which it is surrounded. Besides the Du Toit's Pan and Kimberley mines, there are De Beer's mine and Bultfontein mine. The centres of Kimberley and De Beer's mines are exactly one mile apart; the centres of De Beer's and Du Toit's Pan just over two miles, while the centres of Du Toit's Pan and Bultfontein are less than three-quarters of a mile. Thus a circle three and a half miles in diameter incloses the whole of the four mines, which taken together are sometimes known as the 'Diamond fields.' A depth of over [illegible] feet has been reached in the Kimberley mine, [illegible] feet in Bultfontein; and over 500 feet in Du Toit's Pan and De Beer's.

At first claims were worked by individual diggers; but the difficulties connected with working led to combination, and companies superseded the individual diggers. These companies, more recently, coming under a process of amalgamation, the ultimate object of which is no doubt to lessen expenses of working, and especially to regulate the output of [illegible], a practical monopoly has been secured. The work at the diamond mines, from the first, has been done by the natives, many of whom travel great distances for the sake of the [illegible]. At the end of [illegible] it was said that there were in actual employment at the four mines 11,[illegible] natives and [illegible]. Illicit diamond buying, or I.D.B. as it is usually termed, at the mines has always prevailed owing to the smallness and great value of the diamonds, and the facilities which were afforded for theft by the native workers. Trapping by detectives is [illegible] and any one may be arrested on suspicion of having [illegible] in his possession [illegible] a licence. The compound system—of keeping the native workers in large enclosed compounds, and preventing them leaving the premises for any reason, till their period of engagement has expired—is said to have reduced the number of diamonds stolen; but it is believed that a large number are still lost to the owners of the mines. The Star of Africa [illegible]. The largest S. African diamond [illegible], found in 188[illegible], and valued at $[illegible]. A yellow stone of [illegible] carats was found in 1884 in De Beer's mine; another, 428½ carats, quite as large as a hen's egg, and said to be the largest diamond in the world, was found in the same mine in 1888. Owing to its yellow color, this immense stone was valued at only $15,000 at the mine. The total value of the diamonds sent from all the diamond mines and diggings during the years 1880-6 inclusive was $109,744,720. The figures from 1867-86 are $241,784,885. The smallest output was in 1885, owing to the fall of loose earth into the mine at Kimberley, when it amounted to $11,143,400. The largest output was in 1881, when it reached $20,881,010. For nine months of 1887 the returns were $15,682,250.

The similarity of the geological formation of s. Africa and Australia attracted attention after the discovery of gold in the latter country. Gold had previously been found in different parts of the colony and beyond it, but not in large quantities. While thousands of Cape Colonists have been attracted to the Transvaal gold mines, gold digging has been carried on for some time in the Knysna district in the extreme s. of the C. C. Although found over an extensive area, the alluvial gold was not got in sufficient quantity to pay the individual digger. It was at first feared that the gold had been brought from a distance and spread over this region, but numerous gold yielding quartz reefs have since been discovered. Shipments of Knysna gold have already taken place, although not on a large scale. In the n. of the colony gold was found in 1886 at a place called Zeekoebaard, in Gruiqualand West.

Copper is found throughout the district of Namaqualand. It was discovered two centuries ago, but the efforts which were then made to turn it to account were unsuccessful. A Capetown firm shipped the first 11 tons of copper ore in 1852. In 1886 the export was 28,429 tons of ore. The principal mining station is Ookiep, 90 miles from Port Nolloth, with which it is connected by a railway. The Concordia mines are the only ones at present at work, although there are many other copper mines in the district.

Coal has been found in the Stormberg range of mountains over an extensive district, but is at present worked only at Molteno and Indwe. As the coal is found in the mountain, no shaft needs to be sunk; the seam is followed by tunneling into the hillside. The work is done with picks, no blasting being necessary. Stormberg coal is at present used on the e. railways of the colony. Trial borings have been in progress for some time past in the Camdeboo mountains, near Beaufort West, and other places in the w. districts; but although coal has been met with in nearly all the borings, neither its quality nor its thickness of seam encourages the hope of the existence of a large coal mine in the w. province of the colony. The price of Stormberg coal, supplied to government, is $3.84 per ton; Indwe coal, $6 per ton.

Iron ores of many varieties and some very rich, are abundant in several places; but the colonial iron has nowhere, as yet, been smelted and worked by colonial coal. Lead ore has been found near the Orange river, and elsewhere, and zincblende occurs in various places. Sandstones, suitable for building, are widely distributed, and the hard stone suitable for millstones is specially abundant on the Stormberg. Marble of very beautiful color, and handsomely mottled, is found in many parts; and the granite of the Paarl is especially fine and durable.

There are extensive and valuable salt pans throughout the colony. The 'pan' is a depression below the adjacent country, the bottom of which is impregnated with salt. The salt is dissolved by rain; when the rainy season passes, the water is evaporated by the heat of the sun when the salt crystals remain and are scraped off with spades.

Manganese ore occurs on the ranges of the peninsula on which Capetown is situated and also on the Drakenstein mountains. About 30 m. from Capetown a private company has opened a mine, which yields from 40 to 80 per cent. Garnets, both red and green, are found in the n. w., and especially on the Vaal river. In both the Orange and Vaal rivers there are numerous agates of many colors and shades. Then there is also found in Griqualand West a remarkably handsome ornamental stone, which came into notice in London during the Colonial exhibition, usually called crocidolite, but which is a pseudo-crocidolite. It is a species of fibrous quartz and when properly cut it displays a distinct ray of light down the centre. Vast quantities are being worked up into jewelry. In 1885, [illegible] lbs of crocidolite were exported and in 1886 the export was [illegible] tons. Cairngorms, quartz crystal, amethyst, rose quartz, red and yellow jaspers, striped and banded jaspers, are also found in the colony. Chalcedony is very abundant on the Orange and Vaal rivers. Bloodstone is found on the Orange river, and prehnite, a mineral of beautiful sea-green color, and very handsome as an ornamental stone, is found in many districts.

Statistics. Between 1876 and 1889 the revenue of the colony rose from $6,393,954 to $21,039,853; the expenditures varied from $17,656,580 to $17,095,561; the debt rose from $29,240,451 to $109,078,930.

	1876.	1889.
Imports	$25,017,988	$52,581,052
Exports	25,960,879	47,675,015

In order of relative importance the exports ranked: diamonds, wool, copper, hides and skins, ostrich feathers, Angora hair, and wine.

Government. The colonial government consists of a governor, nominated by the crown, whose term of office usually extends to six years. His salary as governor, paid by the colony, is $25,000 per annum. He is assisted by an executive council of which he is the president, consisting practically of the ministry for the time. There are five offices in the Cape ministry the colonial secretary, the treasurer of the colony, the attorney-general, the commissioner of crown-lands and public works, and the secretary for native affairs. These ministers have the right to sit and speak in either branch of the legislature, but may vote only in that branch to which they have been individually elected. The meetings of the council are convened by the governor. The salaries of ministers are $7,500 per annum, with $1,250 additional to the prime-minister.

The lower house, or house of assembly, at the Cape, consists of 76 members. Capetown and Kimberly send each four members; Tembuland and Griqualand E. each one member; and 33 divisions of the colony return two members each. The upper house, or legislative council, consists of 21 members, who are elected by eight circles or sections, into which the colony has been divided for legislative council purposes. The house of assembly is purely elective; in the upper house the single exception is the chairman or president of the council, who is the chief justice of the colony, ex officio. He has power to take part in any debate that may arise, and the casting vote only when the votes are equally divided. The qualification for entering the house of assembly is identical with that of a voter. To enter the upper house, a man must be possessed of immovable property within the colony of the value of $10,000. Members of both houses residing more than 15 miles from the place where parliament assembles are entitled to mileage and $5 per day.

The franchise in the C. C. is exercised by the following persons: (1) the occupier for 12 months of a house, warehouse shop, or other building of the value of $125. (2) The joint occupier, whose share is of the value of not less than $125. (3) The recipient for not less than 12 months of salary or wages at the rate of not less than $250 per annum, or of $125 per annum, with board and lodging. Voters are entitled to be registered in more than one division. This franchise was modified in 1887 so that native voters should no longer be able to bring forward their share in a communal or tribal holding, as qualifying, in whole or in part, to exercise the franchise. Such voters had for a considerable period enjoyed the colonial franchise.

The number of registered voters in 1890 was 73,916 under the new registration act.

The C. C. is divided into 65 divisions or counties, in each of which there is a divisional council elected every three years, which is empowered to levy rates and manage the business of the division. The chairman is the civil commissioner of the division, who is usually also the resident magistrate. The large towns are under mayors and town councils; smaller towns have municipal councils, and villages have municipal boards. Councillors are elected for three years, and go out by rotation.

For the administration of justice, there are field cornets and justices of the peace for minor cases throughout the districts of each division of county; then there is the resident magistrate of each division, for adjudicating in more serious cases, and for conducting preliminary examinations of cases which go before the superior courts, which sit at Kimberley, Grahamstown, and Capetown—the last being the supreme court. There is an appeal from the colonial court to the house of lords.

A peculiar arrangement obtains for the discharge of general imperial functions in S. Africa. The governor of the Cape holds a commission as High Commissioner for s. Africa, which imposes on him very important duties, having reference to the interests and well-being of countries outside the Cape. As high commissioner, the governor of the colony conducts the correspondence between Her Majesty's government and the Free State and Transvaal republics. N the territories under imperial administration or protection have the colonial governor as chief administrator or governor, in his capacity of high commissioner. The salary of $5,000 per annum is paid to the high commissioner, not from the imperial, but the colonial exchequer. This function has had a disturbing and prejudicial effect on purely C. C. politics. It is a question about which there has been difference of opinion among officials, as to whether as high commissioner the governor of the Cape must consult and guide himself by the advice of his colonial ministry. Sir Bartle Frere was inclined to consult the ministers as high commissioner. Sir Hercules Robinson endeavored to take the opposite course. Cape politicians are also divided on this question. Some urge the continuance of the dual system, with the clear understanding that, as high commissioner as well as governor, the holder of the duplex offices should submit himself to local colonial guidance and advice; others urge the separation of the functions by the appointment of an imperial officer to the work of high commissioner or governor general, and of a second officer to be constitutional governor of the Cape Colony.

History. The cape of Good Hope was first rounded by the Portuguese voyager and discoverer Bartholomew Diaz in 1486. For a century and a half the Cape was used occasionally by Portuguese, English, and Dutch mariners engaged in the e. ocean-trade. They obtained fresh water under Table mountain, and were able to purchase cattle and sheep from the natives. Two English admirals, in the time of James I., landed and took possession of 'the s. African coast and continent.' No after step, however, was taken by the English government to ratify this act of Adms. Shillinge and Fitz Herbert—the latter an ancestor of the Earl of Carnarvon. It was not till 1652 that the Dutch East India Co., under charter granted by the states-general of the united provinces of Holland, took possession of Table bay, established a fort and occupying the lands skirting the foot of Table mountain. The primary object of the settlement was not colonization, but the supply of the company's vessels on their voyages to and from the e. archipelago. It was in the nature of things, however, that a lovely and fruitful country when discovered should be gradually cultivated; and this was done under the auspices of the company, and on very unfavorable terms to the individual settler. There took place a chronic conflict between the Dutch East India Co. and the early settlers, whose industrial efforts were hampered and rendered almost nugatory by the company's repressive and monopolizing rule. Appealing repeatedly and in vain to headquarters in Holland, the landward population were in actual rebellion when, at the end of the 18th cent., events in European politics extended their influence to the Cape. The French having conquered Holland, the Stadtholder the Prince of Orange, fled to England, where he made a treaty with the English against the common enemy, the French. An English fleet was dispatched to hold the Cape for the allies, the officers in charge, Adm. Elphinstone and Gen. Craig, having been entrusted with a letter to the Cape government from the prince of Orange, directing that the English troops and ships should be received as in alliance with Holland, and sent to protect the colony. The local officer in charge of the Cape, however, refused to recognize the letter of a refugee prince—especially as he had no instructions from his immediate masters, the Dutch East India Co. After a short engagement the company's officers asked for an armistice and afterward yielded to the English force. Holding the country for the allies England handed back the Cape to Holland at the peace of Amiens in 1802. For some four years the Cape was a Dutch colony under the government of the Netherlands, and not under the Dutch E. India Co. When war broke out again in Europe, an expedition under Sir David Baird was dispatched to recapture the Cape, in order to prevent a station of such importance from falling into the hands of the enemy. The English force numbered some 4,000 men; the Dutch under Gen. Janssens, composed of Batavian and colonial troops, consisted of about 2,000. An engagement took place; the English, advancing to the attack under a heavy fire, bore down all opposition. Gen. Janssens retreated and took up a strong position among the hills of Sir Lowry's pass. The English general, now in possession of Capetown, opened communications with Gen. Janssens, and was not unwilling to make the terms of his submission liberal and generous. For some years the Cape seems to have been regarded by the British government as technically under temporary occupation as a conquered territory; but when the European war was concluded a convention was entered into (1814) whereby the C. C., so far as European politics were concerned, was recognized as belonging to England. Other Dutch possessions were also made over to England at the same time; on the British side $30,000,000 was paid to Holland.

The true history of the Cape as a colony may be said to begin with the close of the rule of the Dutch East India Co. The old vexatious restrictions were removed from the burghers, and industry and trade at once received a stimulus especially by the encouragement which was given to rearing wool-bearing sheep—against which, however, great prejudice was for some time entertained by the more ignorant farmers. At first all power and authority were vested in the governors of the colony; and the country owes much to the ability and public spirit of the men who first filled this office. In 1825 an executive council was appointed to assist the governor. In 1835 the first legislative council was constituted one-half being government officers, the other half nominated by the governor and approved by the crown. In 1850 this council was authorized to take the necessary steps to introduce representative government, and in 1853 an order in council was issued, providing for the creation of a colonial parliament, consisting of a house of assembly and legislative council. In 1872 "responsible government" was conceded. Thus political and social changes and improvements have been inaugurated in the colony in a comparatively short period, which have taken hundreds of years to work out in European countries. Nor must it be forgotten that this elevating and enfranchising work was not confined to a section of the population. In 1828 an order in council was issued declaring that all natives who were not slaves were on the same footing as Europeans before the common law. And the slaves at the Cape were also emancipated, along with those in other British possessions in 1838.

It is not necessary to refer at length to what are known as the Kaffir wars. The difficulties connected with the government of the C. C. have had reference to two laws of population which have been in active operation since our earliest connection with the colony. The European population was steadily moving in; the native population was with equal regularity moving [illegible]. The non-recognition of these two laws on the part of those responsible for the peace of the country has been the real cause not only of much disappointment and vexation, but also of outrage, bloodshed, and vast expense. Then the contact of such people as the Kaffirs, who were given to war, and were passionately fond of cattle-lifting, with colonists whose cattle were frequently allowed to wander unherded night and day over the prairie grazing ground, could not but be attended with some considerable amount of conflict and recourse to arms. The constant recurrence of these wars, however, was owing not only to a warlike spirit in the tribes but to the fact that tribal rule becomes obsolete and inefficacious when any considerable number of Europeans appear in a native territory. The new wine of European civilization, with its written accounts, mortgages, and bills coming up for adjudication, cannot be contained in the old bottles of unlettered Bantu chieftainship. Several of the colonial wars sprang from the reluctance of the imperial government to recognize this law, and to substitute enlightened administration for native rule. Thus the same country had to be conquered again and again. Sir Benjamin D'Urban in 18[illegible] and Sir George Grey [illegible] to impress on the imperial government that the way of peace was in the effective administration of native territories and not in alternately fighting them and letting them alone. It was the policy of the Scanlen ministry to devolve the efforts of the colonial government to strictly colonial administration within the colony, leaving the native territories under imperial administration. The policy of their successors, the Upington-Sprigg ministry, was to annex native territories to the colony, to govern the colony proper by responsible government, and the native territories by paternal or personal government, administered by the colonial government. With the exception of Pondoland the whole of the native territories between Natal and the C. C. were in accordance with the policy of the latter ministry annexed to the C. C. in 1885.

See [illegible] 1886; and Silver's Handbook; Greswell, Our South African Empire, 1885; Mackenzie, Austral Africa, 1887; Wilmot and Chase, History of Cape Colony, 1869; Theal's History of South Africa (1888).

CARTHAGE.—1

CARTHAGE: a city on the north coast of Africa, the capital of one of the greatest empires of the ancient world. It was situated on a peninsula at the north-east corner of the region now known as Tunis, and was founded, most probably about the middle of the 9th century B.C., by Phœnicians who came either from Tyre or from the Tyrian settlement of Utica. The Carthaginians were thus of Semitic origin. They were an offshoot from the Canaanites who occupied Palestine before the Jewish invasion, and whose language was closely akin to Hebrew. The name C. is a corruption of Kirjath, the Canaanite word for a town, which occurs in Scripture in such names as Kirjath-Baal and Kirjath-Jearim. The city, called Carthāgo by the Romans, and Karchēdon by the Greeks, was known to its own inhabitants as Kirjath-Hadeshath, or the New Town, to distinguish it either from Tyre or from the earlier Phœnician colony of Utica. Its history may be divided into three periods: the period before 509 B.C., when the first treaty was concluded with Rome; the period of the Græco-Phœnician wars in Sicily; and the period of the Punic wars, from 264 B.C. to 146 B.C.

Of the city's rise to power and opulence nothing is known. It does not come within view of the historian until the 6th century B.C., when it appears as centre of a great commerce and the capital of extensive dominions, including part of the north coast of Africa, Sardinia, part of Sicily, and probably Malta. Corsica was acquired about the close of the century. A hegemony was established over Utica, Hadrumetum, Hippo, and the other Phœnician cities in Africa, from which a money tribute was received, while a tribute in kind was exacted from the neighboring African tribes. Besides pure Canaanites, the Carthaginian population included a large number of Liby-Phœnicians, or half-breeds, the offspring of unions of Phœnicians and Africans. These half-breeds were regarded with keen jealousy by the rulers of the city, and the famous expedition of Hanno, which took place, as far as can be ascertained, toward the close of the 6th century B.C., was fitted out to transport them to distant settlements. There is in the library of Heidelberg a Greek manuscript termed the Periplus (or Circumnavigation), which is said to be a translation of the account of his voyage placed by Hanno in the temple of Moloch at C. According to this narrative, Hanno sailed beyond the Pillars of Hercules; founded cities of the Liby-Phœnicians; made his way up 'a great river called Chretes' (probably the Senegal); and after having 'sailed by streams of fire,' came to 'a bay which is called the Southern Horn,' and which has been identified with Sherboro Sound, to the south of Sierra Leone. Scarcity of provisions prevented him from sailing farther to the south. (See Mer, Mémoire sur le Périple d'Hannon, Paris, 1885.) About the same time Himilco is said to have explored parts of the northern coasts of Europe, but regarding this voyage we have no trustworthy information. In 525 B.C. C. would in all likelihood have been destroyed by Cambyses but for the refusal of the Phœnicians, who formed part of his fleet, to act against their kinsmen. By the first treaty between C. and Rome (509 B.C.) the Romans were restricted from sailing beyond the Fair Promontory (probably Cape Bon), a provision probably designed to exclude them from Spain, with which C. had a great commerce; while the Carthaginians were forbidden to injure any Latin city, even though it should not happen to be subject to Rome. A later treaty, of which the exact date is unknown, imposed harder conditions on the Romans, whom it debarred from trading in Africa and Sardinia, while it permitted the Carthaginians to attack Latin cities not under Roman rule. It forbade them, however, to make any settlement in Italy.

From the beginning of the 5th century B.C. to the date of the city's downfall, the history of C. is the history of a struggle for supremacy between the Semitic and the Aryan races, a struggle waged first by the Canaanite and the Greek, and then by the Canaanite and the Roman. The Græco-Phœnician wars were fought for the possession of Sicily, an island only a hundred miles distant from C., and 'the natural bridge between Italy and Africa.' On the outbreak of the Persian war the Carthaginians determined to annex Sicily at a time when its Greek colonists could receive no aid from the parent cities. In 480 Hamilcar landed on the island with a motley force of Phœnicians, Libyans, Iberians, Corsicans, Sardinians, and Ligurians, said, but probably with exaggeration, to have numbered 300,000 men. Gelon of Syracuse, with 55,000 men, met the invaders at Himera, where Hamilcar was slain and his army cut to pieces. This great victory is said to have been won on the same day as the battle of Salamis. Seventy years elapsed before the Carthaginians renewed the struggle. In 410 B.C. Hannibal, a grandson of Hamilcar, invaded Sicily with 100,000 men, and after massacring the people of Selinus, captured Himera, and there offered up 3,000 captives as an expiatory sacrifice to the spirit of Hamilcar. Another expedition was dispatched from C. in 406 B.C., and in 396 B.C. Himilco blockaded Syracuse, the last of the great Hellenic cities in the island which remained unconquered. But pestilence having broken out among the besiegers, Dionysius, the tyrant of Syracuse, fell upon their camp, and only a fragment of their army escaped to Africa. The struggle went on until the death of Dionysius, success inclining now to one side, now to the other. Then there was peace for twenty years, during which the power of C. steadily waxed in Sicily. So formidable did she become, that in 344 the Syracusans appealed to Corinth, their mother city, for aid against her. The Corinthians sent them 700 mercenaries under Timoleon. With 6,000 men Timoleon routed a host of 70,000 Carthaginians as they were attempting to cross the river Crimessus (339 B.C.); a second Greek victory followed; and the tide of Semitic invasion was rolled back. C. sued for peace, and the contest was not renewed until 309 B.C., when Syracuse, under the rule of the tyrant Agathocles, was rent by civil dissensions. Hard pressed at home, Agathocles formed the audacious design of falling upon C. while her forces were mainly in Sicily. Eluding the Carthaginian fleet, he landed in Africa, gained victory after victory, and carried the war up to the walls of C. But his presence being urgently required in Syracuse, he had to leave his son Archagathus in charge of the army. Archagathus proved incompetent. On the return of his father a mutiny broke out; Agathocles fled to Sicily, and his troops made peace with C. The Græco-Phœnician wars came to an end with the Sicilian campaigns of Pyrrhus, king of Epirus. That monarch, one of the greatest generals of antiquity, projected the conquest of C., but wasted his strength in a futile contest with Rome, and after leading the Greeks of Sicily with varying fortune against the Carthaginians, was forced to quit the island in 276 B.C.

The first of what are known, from the Latin word *Punicus*, 'Phœnician,' as the Punic Wars began in 264 B.C. The conquest of southern Italy by Rome had brought face to face the two rivals for supremacy in the Mediterranean world. The Mamertines, a body of Campanian mercenaries who had served under Agathocles, sought and obtained Roman aid against Syracuse and C. The Romans won two great sea fights at Mylæ (260 B.C.) and at Ecnomus (256 B.C.), and Regulus carried the war into Africa, where he was defeated and his army almost annihilated by the Carthaginians under the command of the Spartan Xantippus (255 B.C.). In Sicily the Romans were for a time baffled by the consummate generalship of the great Hamilcar Barca, who defied all efforts to dislodge him from the stronghold of Eryx. But he received no adequate support from C., and a naval victory won by Rome at the Ægates Islands brought the war to a close 241 B.C. C. gave up all claim to Sicily, and paid an indemnity of nearly $3,880,000. But Hamilcar marched out from Eryx with all the honors of war. The Carthaginian mercenaries then mutinied, and were supported by the Libyan tribes. After a bloody struggle which lasted from 241 to 236 B.C. the rebellion was crushed by Hamilcar. That great general then determined to build up an empire in Spain which would compensate for the loss of Sicily and furnish an admirable recruiting ground in the struggle with Rome, of which he foresaw the renewal. He crossed into Spain in 236 B.C., and before his death in 229 B.C., he had by arms and diplomacy extended the sway of C. over a great part of the peninsula. His work was ably carried on by his son-in-law Hasdrubal, who was remarkably successful in conciliating the Spaniards. Hasdrubal was assassinated in 221 B.C., when C. held all Spain up to the Ebro.

On the death of Hasdrubal the troops chose as their leader Hannibal, the son of Hamilcar, the greatest of all the Carthaginians, and 'the greatest captain that the world has seen.' In 219 B.C. Hannibal captured the town of Saguntum, a city in alliance with Rome. The Romans, who had long been jealous of the progress their rivals had made in Spain, thereupon declared that the treaty was broken, and the Second Punic War began. That war is in this work dealt with in the articles HANNIBAL and ROME. It was, as

Arnold has said, the war of a man with a nation: no other war shows so impressively what the genius of a single man can achieve. The campaigns of Hannibal are the most wonderful in all history. Here, however, it must suffice to say that he led his men from the Ebro to Italy; that he had himself in a great measure to create the far inferior forces with which, in battle after battle, at the Ticinus and the Trebia, at Trasimenus and at Cannae, he broke and drove the legionaries, the best soldiers of the ancient world; that he brought Rome to the verge of ruin, and that his victories would, in all likelihood, have been crowned by her capture had he been duly supported from home. But his countrymen were unworthy of the great Carthaginian. After having maintained himself in Italy for fifteen years, he was recalled in 203 B.C. In 202 B.C. Publius Cornelius Scipio invaded Africa and won the battle of Zama. Peace was then concluded. The Carthaginians were forbidden to make war on any state without permission of the Romans. They were compelled to give up all war ships except ten, and to pay an indemnity of ten thousand talents and an annual tribute of two hundred.

In the years between the Second and the Third Punic Wars, Massinissa, king of Numidia, made repeated aggressions on C. The Carthaginians appealed in vain for justice to the Romans, who having resolved on the destruction of the city, declared war in 149 B.C. C. fell in 146 B.C. It was taken by Publius Cornelius Scipio Æmilianus after a siege of two years. For six days the fighting went on in the streets of the city, the people, men and women, defending their houses with a fierce determination which recalls the resistance of the Jews in the siege of Jerusalem by Titus. The city was razed to the ground, and the country became a Roman province. At the time of the siege C. is said to have had 700,000 inhabitants.

C. was to rise again as a Roman city, but her capture by Scipio closes her history as the capital of a Phoenician state and the centre of a vanished civilization. Our knowledge of that civilization is meagre and vague in the extreme. And it must be remembered that what we do know of C. is derived from her implacable enemies. To the Greeks the Carthaginians seem to have been more repugnant than any other 'barbarians.' With the Romans 'Phoenician' was synonymous with all that is cruel and treacherous. Yet, were it not for Greek and Roman writers we should know nothing of Carthaginian history. In reading that history, wide allowance must be made for the fact that no Carthaginian version of it has come down to us. It is hardly possible to follow with sympathetic interest the fortunes of C. apart from those of the great family of Barca. Her people were bold and skilful sailors, and the most industrious and enterprising of merchants. She produced several men of high political ability, and one man of incomparable military genius. But her people had not the qualities of an imperial race. A nation of traders, they trusted in war principally to mercenaries. It was seldom that native Carthaginians, save in times of acute peril, formed any considerable part of the army. Their rule was peculiarly oppressive, and their subjects were at all times ready to rise against them. In the struggle with the Greeks they committed the bloodiest atrocities. Their civilization seems to have been wholly material; they had apparently no artistic genius; their religion was the most hideous ever practised by a people raised above barbarism. Their overthrow by Rome was, it can hardly be doubted, a gain to mankind. 'Still, it must never be forgotten that it was in this strange Canaanite people, alone of barbarian nations, that Greece and Italy found real instructors, worthy rivals in commerce, policy, and warfare' (Freeman).

The history of the wars of C. with the Greeks and Romans is really the record of a struggle to the death between the Aryans and Semites for the possession of Europe; and we being ourselves of Aryan stock instinctively sympathize with the latter. Just in the same way we approve of the expulsion of the Moors from Spain, and would be glad to see the Mohammedans driven finally from European soil. Yet it must be remembered that Europe owes much to the [illegible] of the Arabs, and it will be a corrective to the harsh portrait drawn of the Carthaginians by their bitterest enemies, the only one we possess, to recall the facts that these Phoenicians gave to the Hebrews their language, and to the Greeks and Romans their alphabet.

The Hebrews stand to us as to religion, as the Greeks in literature and art, in a parental relation, and thus indirectly Phoenician influence is felt by us to-day over the whole area of life. There must have been much wisdom, patriotism, energy, good government, justice, honesty, religion, and morality among the Carthaginians to build up so vast a commercial empire, and to enable a city of merchants to dispute for four centuries the empire of the Mediterranean with the greatest people of antiquity. If the Romans made the phrase *Punica fides* at once a by-word and a bitter indictment, it probably had no more justice in it than the epithet of *Perfide Albion*, coined by the witty Gaul.

Like other Canaanites, the Carthaginians practiced a horrible form of fire worship. Their chief god was Moloch, or Baal Hammon, who represented the destructive power of the sun. In his temple there burned a furnace into which human victims were cast. These were generally captives taken in war, but in times of extreme peril native Carthaginians were also sacrificed; when Agathocles besieged the city, it is said that 200 children belonging to the noblest families were slain to propitiate the god. The moon goddess, Ashtoreth, the Greek Astarte, was worshiped under the name Tanith. Melkart, who corresponded to the Greek Hercules, was held in special honor, and missions with offerings were sent at regular intervals to his great temple at Tyre. A sea god, whom the Greeks identified with Poseidon, was in all probability the same as the Philistine fish-god Dagon. Another deity named Eshmun seems to have presided over healing. Religious honors were paid to deified heroes; to certain genii or spirits; to various animals, among them the lion, the bull, and the serpent; and to several of the Greek divinities, with whom the Carthaginians became acquainted in Sicily. There does not appear to have been an order of priests, the sacrificial rites being performed by the generals and the principal magistrates.

The constitution was oligarchical. The two chief magistrates were called by the Romans suffetes, a corruption of a Canaanite word corresponding to the Hebrew shophetim or "judges." The suffetes were chosen from the members of certain distinguished families. The tenure of office is uncertain; some seem to have been elected annually, others for life; but they could not lead an army or a fleet unless specially appointed to the command. The senate contained an inner council of a hundred, which seems to have been the chief executive power in the state. It exercised a jealous supervision over the generals, who had on returning to the city to submit reports of all their transactions to its members. There was also an assembly of the people, which seems, however, to have had very slight political influence. According to Aristotle, the state officials were unpaid. So far as can be ascertained, justice was administered by special courts. The oligarchy seems to have been at various times rent into factions, and corruption was rife during at least the later period of Carthaginian history. An immense revenue was necessary to maintain the navy and mercenaries. It was drawn from heavy customs duties levied on imported goods, from the tribute paid by other Phoenician cities and the subject African tribes, and from rich mines worked by the state in Corsica and Spain. The [illegible] thus raised were partly transmitted to C., partly stored up in the provinces for the service of the army. The state could without difficulty send out a force of 100,000 troops. The fleet which was defeated at Ecnomus numbered 350 ships and had 150,000 men on board. The commerce of C. was not confined to the Mediterranean ports. Her ships sailed as far west at least as the Azores, as far north as Britain and the Baltic, and if the story of the circumnavigation of Africa by Hanno be doubted, although it bears all the internal evidences of good faith, they at least explored the western coast of the continent via the Strait of Gibraltar as far south as Senegal and Gambia. She carried on an extensive trade with the interior of Africa; some of her caravans passed across the Sahara to the region of the Niger; others went regularly between Thebes in Egypt and the Strait of Gibraltar, following a route with fixed stations for halting [illegible] and wells. [illegible] Slaves, gold, ivory and precious stones were the staples of the African trade. [illegible] were imported from the Mediterranean countries. Spain and Sardinia furnished [illegible], slaves; Britain tin and copper, the Baltic amber. A considerable overland trade was carried on through Spain with the Gallic tribes, as the Massilians would not allow trading stations to be established on the southern coast of Gaul.

The Carthaginians had no aptitude for art; even their coins bear the impress of Greek design and workmanship; and their literature has perished. When the city was taken by Scipio the contents of its libraries were dispersed and lost. A single book, a treatise on agriculture, ascribed to one Mago, was preserved and translated into Latin by order of the Roman senate. Cicero speaks of this work (De Re Rustica) as being in his day the standard authority on its subject. Himilco is said to have written an account of his voyage to the north-western shores of Europe, and according to Livy, Hannibal wrote a history of his own campaigns. A corrupt form of the Carthaginian or Canaanite language was spoken in parts of north Africa in the days of Augustine, who was struck by the close resemblance which it bore to Hebrew.

Some twenty years after the destruction of C. Caius Gracchus endeavored to found a Roman colony on her site. This scheme, which at first ended in failure, was carried out by Augustus, in accordance with the intentions of Julius Cæsar. In the 3d century A.D. the new C. had become one of the chief cities of the empire. It figured conspicuously in ecclesiastical history, being the scene of several important councils and synods. At a church conference held there in 411 A.D. the suppression of the Donatists was decreed; and the Pelagian heresy was condemned by a council of C. held in 418 A.D. The city, which was seized by Genseric in 439 A.D., became the capital of the Vandal kingdom of Africa, and 'after an interval of six centuries, the fleets that issued from the port of C. again claimed the empire of the Mediterranean' (Gibbon). The Vandal kingdom was overthrown by Belisarius, who took C. in 533 A.D., and named it Justiniana. The city, which Heraclius at one time proposed to make the capital of the empire, was destroyed by the Arabs under Hassan, governor of Egypt, who conquered part of northern Africa for the Calif Abd al Melik in 692-98 A.D.

For the legendary history of C., see the article Dido.

See the histories of Arnold, Grote, and Mommsen; Bosworth Smith's admirable Carthage and the Carthaginians (1879); the History of Art in Phoenicia and her Dependencies, by G. Perrot and C. Chipiez, translated by W. Armstrong (1885); Davies, Carthage and her Remains (1861); Hennebert, Histoire d'Annibal (Paris, 1870-78); Professor Church, Carthage, or the Empire of Africa (1886); and the geographical treatises of Heeren. Among ancient writers, the chief authorities on C. are Polybius, Diodorus Siculus, and Livy. Flaubert's Salammbo is a vivid picture of ancient Carthaginian life, marvellously learned in details, and illumined with genius.

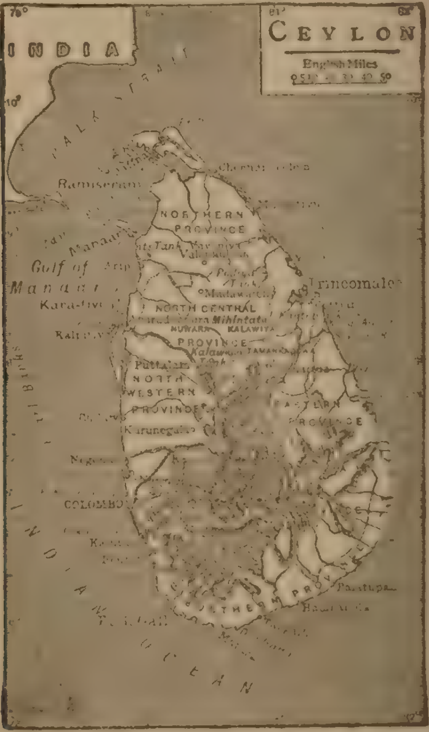
CASHMERE.

CASHMERE, *kăsh-mēr'*: is the familiar and time-honored form of the name now usually spelt by Indian authorities KASHMIR, and designates the northernmost province of British India. The native state of C. embraces an irregular-shaped mountainous region, part of the Himalayan system, between 32° 30′ and 35° n. lat., and 73° 30′ to 76° e. long. Within its borders are included the valleys of many snow-fed streams, but chief among them is the valley of the Upper Jhelum at Srinagar 'the Vale of Kashmir' celebrated in literature and history for the beauty of its scenery and the charm of its climate. It extends for about 120 m. from n.w. to s.e., with a mean breadth of 75 m., at a distance of about 130 m. by road from Rawal Pindi, in the Punjab. The flat part of the valley is not more than 80 m. long by 20 wide, with a variable elevation above sea level of from 5,000 to 7,000 ft. In it are situated two lakes, the Dal, a little to the n. of the winding course of the river at Srinagar, and the Wular, through which the river flows ere changing its course to the w. and passing through the mountains to the Punjab plain. The two best known routes to Srinagar are from Rawal Pindi, via Murree and the narrow valley of the Jhelum, which is now an open and well made road, but occasionally very hot; and the route from Bhimbar n. of Gujrát across the lofty range of the Pir Panjal, rising to 11,000 ft. above sea level. The former is the more convenient, while the latter passes through mountain scenery of singular beauty, and possesses the advantage of being cool as well as beautiful. Nothing can well exceed the fertile beauty of the Cashmere valley. It is almost surrounded by snow-capped mountains, the lower spurs of which descend gently in terraced slopes to the level of the valley. These terraces are abundantly irrigated for the purpose of rice cultivation, rice being the staple crop throughout Cashmere. On the margins of the lakes, and scattered through the whole extent of the valley, are magnificent groves of chenar or plane trees, here and there laid out with great regularity and taste to form gardens and country seats, which used to be the favorite resorts of the Mogul emperors two centuries ago. Avenues of poplars line the banks of the river and the canals, and lend to the scenery a peculiar grace which is quite distinctive of Cashmere. On the surface of the lakes are floating gardens composed of masses of vegetation from two to three feet thick—intertwined blocks of aquatic plants. Srinagar is a quaint and picturesque old town, built almost entirely of wood, said to have been founded at the beginning of the 6th cent. It occupies both banks of the river, which is spanned by seven wooden bridges, and like all e. towns is most unclean. The industries of Srinagar are chiefly shawl weaving and lacquer work, but Cashmere silver and copper work is rapidly acquiring a distinctive character and rising in importance among oriental arts. The peculiar design which marks all Cashmere art is said to be derived from the graceful curves of the river as viewed from the summit of the Takht-i-Suleiman, a well known hill overlooking the city of Srinagar. Cashmere is now visited by thousands of Europeans, who settle there for the hot months of the year.

Food of almost every description is found nearly wild in the lower valleys, yet C. is occasionally subject to the scourge of famine. The famine of 1878, together with [illegible], and the draining of the country by emigration, have reduced the population of the valley by a half. Much has been written [illegible] the [illegible] of the C. men and the beauty of the C. women, but it must be admitted that with [illegible]

C. was conquered by Akbar in [illegible] and became part of the Mogul empire. It was overrun by the Sikhs [illegible] Gholab Singh, the founder of [illegible] made a treaty with Britain in 1846, by which he was [illegible] in possession of C. and recognized the supremacy of the British government. There is a British resident at the court of the present Maharaja. The total population of the Maharaja's dominions was estimated in [illegible] at [illegible] There was no census in [illegible] Of these [illegible] per cent. [illegible] in the district of Jamu, the rest in other districts. Of the total [illegible] are Mohammedans, [illegible] Hindus, [illegible] Buddhists. Fourteen dialects are spoken, Hindustani and Persian [illegible] the Kashmiri is very closely related to Sanskrit. See works by Bellew [illegible], Drew (1875), and Wakefield [illegible]; also Hinton Knowles, Kashmiri Proverbs (1885), and **Folk-tales of Kashmir** (1888).

CEYLON, *se lŏn'* or *sī-lŏn'* (the *Taprobane* of the Greeks and Romans, and the Serendib of the Arabian Nights): an island and British crown colony in the Indian ocean, to the s.e. of India, from which it is separated by the gulf of Manaar and Palk strait, 32 to 120 m. broad. It lies between 5° 55' and 9° 51' n. lat., and 79° 42' and 81° 55' e. long. Extreme length from n. to s., from Point Palmyra to Dondera Head, 266 m.; greatest width, from Colombo to Sangemankande, 140 m. Area 25,364 sq. m., of which more than one fifth is under cultivation. The total population numbered in 1881 2,761,396, in 1891 2,887,091 souls.


CEYLON
English Miles
0 5 10 20 30 40 50
INDIA
PALK STRAIT
Ramiseram
NORTHERN PROVINCE
Manaar
Gulf of Manaar
Kara-tivu
Trincomalee
NORTH CENTRAL PROVINCE
Mihintale
NUWARA KALAWIYA
Puttalam
NORTH WESTERN PROVINCE
Kurunegala
EASTERN PROVINCE
Negombo
COLOMBO
SOUTHERN PROVINCE
Hambantota
INDIAN OCEAN
76°
81°
10°

Physical Features.—In [illegible] with any part of the world [illegible] the rich luxuriance of a tropical vegetation, it seems to the voyager like some enchanted [illegible] draped with forests of perennial green [illegible] height till they are lost [illegible] blue dashes [illegible] and yellow [illegible] C. resembles [illegible] one of [illegible] parts of the island [illegible] tral s., which has an elevation of from 6,000 to 8,000 ft. above the sea-level. Pedrotallagalla, the highest mountain in the range, attains the height of 8,260 ft.; the celebrated mountain of Adam's peak, 7,420 ft.; and the table-land of Nuwara-Eliya, 6,210 ft.

Geology.—The mountain system is mainly composed of metamorphic rocks, chiefly gneiss, frequently broken up by intrusive granite. With the exception of some local beds of dolomitic limestone, the gneiss is everywhere the surface rock, and the soil is composed of its disintegrated materials. The n. part of the island is rising; and the immense masses of corals continually increasing, retain the débris brought from the Indian continent by the currents of the sea, and thus form a flat, ever-increasing madrepore plain.

Metals and Precious Stones.—Iron can be obtained in great quantities, and anthracite and rich veins of plumbago exist on the s. range of hills. Gold has recently been found. The gems of C. have been celebrated from time immemorial. Sapphires, rubies, the oriental topaz, garnets, amethysts, cinnamon stone, and cat's-eye are the principal gems and precious stones of the island. The declared value of the precious stones exported is about $50,000 annually; but as large numbers are purchased by passengers calling at Colombo and by native merchants for sale in s. India, the actual value is doubtless very far in excess of the sum named. The pearl fisheries of C. were known at a very remote date in the commercial history of the world. Under the Portuguese and Dutch governments, and now under the British government, the pearl fisheries form a monopoly, and are under the inspection of an officer, who reports when a sufficient number of pearl-yielding oysters have reached maturity, and when the prospect of a successful fishing is thus probable. The fishings are intermittent and occur at irregular dates. In 1863 the value of pearls obtained was $250,000; in 1874 it was $70,000; in 1877, $65,000; in 1879-80, $147,500; in 1881, $220,000; in 1888, $175,000; and in the intermediate periods between these dates there was practically no fishing at all.

Rivers.—The most important river in C. is the Mahavila-ganga. It has its source in the vicinity of Adam's Peak, and after draining more than 4,000 sq. m., it separates into several branches, and enters the ocean near Trincomalee. The s. side of the island is watered by ten rivers of considerable size.

Harbors.—Galle, at the s. extremity of C., and Trincomalee on the e. coast, are the only natural harbors capable of containing ships of large draught. The construction of a breakwater at Colombo, the capital of the island, which provides safe anchorage for ships of any size in all weather, has concentrated the commerce of the island there, and has also attracted from Galle the mail and passenger steamers from Europe, India, Australia, and China, which used to coal and tranship at Galle. At Trincomalee are the naval stores and dockyard, and the harbor is the finest in e. waters.

In climate, C. has a great advantage over the mainland of India, and as an island enjoys a more equable temperature. The average for the year in Colombo [illegible] is 80° in ordinary seasons. April is the hottest month, and in May the s.w. monsoon commences amid a deluge of rain and continues the prevailing wind till Oct., when the n.e. monsoon sets in. [illegible] is the average annual fall of rain, though in an exceptional year 120 in. have been registered. The beautiful tableland of Nuwara Eliya was first visited by Europeans in 1826, and is now used as a sanatorium. Here the thermometer in the shade never rises above 70°, while the average is 62°; the nights are cool and refreshing. The n. of the island, including the peninsula of Jaffna, the plains of Nuwara Kalawa, and the Wanny, may be reckoned as a third climatic division. Here the annual fall of rain does not exceed 30 in., and irrigation is largely employed in agriculture.

Flora.—The general botanical features of C. are in many respects similar to those of s. India. A very large number of the species of plants are however peculiar to the island. About 800 species (nearly 30 per cent. of the whole number found in C.) are endemic—that is, found nowhere else in the world. The tree vegetation of the forests is almost wholly composed of such endemic species, and not a few of endemic genera. The affinities and near alliances of these are with the plants of the Malay islands and peninsula. Hence, to speak more correctly, the flora of C. partakes of an Indian as well as a Malayan character, but is identical with neither. As may be expected from the climatic peculiarities of the country the flora is greatly diversified. In the s.w. mountainous parts of the island, with the exception of some grassy tracts called patanas and the plantations of tea, coffee, and cinchona, the slopes and summits are forest-clad. The trees are evergreen, with thick coriaceous leaves, growing closely together and forming dark jungles. The undergrowth is largely made up of gregarious plants known as nilu, species of the genus strobilanthes, which only flower at regular intervals of five, six, or seven years. Tree ferns, often 25 ft. in height, scarlet flowering rhododendrons, numerous tufted bamboos, melastomads, and orchids are found in mountain forests. In the low country the vegetation is marked by the prevalence of palms, the cocoanut being pre-eminent. The beautiful areca palm, the feathery jaggery or kitul, and the lordly talipat are the glories of C. lowland vegetation. In the recesses of low country forests the trees are huge and closely packed. Among the timber trees the most valuable are the calamander, satin wood, and ebony. Two very interesting and peculiarly slender tree-ferns grow in the hot, steamy forests of C., as also the most admired of C. orchids, Dendrobium Maccarthiae. There has been extensive cutting down of forest in the mountains of C. to establish plantations, and the lowlands have suffered no less severely by the indolent and improvident practice of native cultivation. As a consequence numerous foreign weeds, such as the lantana, white weed, and Spanish needle, have established themselves to the exclusion of native vegetation in the hills; while in the lowlands coarse grasses and worthless scrub have covered the country. The orchids of C. number about 150 species. With the exception of about a dozen Dendrobiums, Erias, and Saccolabiums, and the lovely Wanaráaja, there are few of a striking character. The ferns number about 250 species. Among the latter is an anomalous variety which bears spores on the upper instead of on the under side of the frond. One of the handsomest native trees of C. is the Muruta (*Lagerstroemia Flos-reginae*). To this might be added the Saraca indica, and the lovely Na (*Mesua ferrea*), or ironwood. In the forests climbing plants and epiphytes of prodigious size and striking appearance cover the trees with a mass of parasitical foliage of extraordinary growth. In the n. of C. the dry forest region is remarkable for its valuable timber trees, such as the Palu, Halmilla, or Trincomalee wood, and ebony. The characteristic palm of the n. and of the peninsula of Jaffna is the Palmyra (***Borassus flabelliformis***).

Fauna.—In C. quadrumanous animals are represented by the *Loris gracilis* and five species of monkeys. Sixteen species of bats exist in C., including the flying-fox. Of the larger carnivora the bear and leopard, and of the smaller, the palm cat and the glossy genette (the civet of Europeans) may be mentioned. The tiger is not met with in C. Deer, buffaloes, and the humped ox of India are plentiful; the chevrotains (q.v.) are also said to be abundant. The elephant, which is for the most part tuskless, is emphatically lord of the forests of C. The wild boar is also found. Whales used to be captured off the coast. Three hundred and twenty species of birds are found. The song of the robin and long-tailed thrush, and the flute-like voice of the oriole are heard over the whole mountain zone and far down into the neighboring plains. Eagles, the beautiful peregrine falcon, owls, swallows, kingfishers, sun birds, bulbuls, crows, parroquets, pigeons, pea fowl, [illegible] fowl, [illegible], and many others of the feathered tribe might be mentioned did space permit. Myriads of aquatic birds and waders, among which the flamingo is conspicuous, cover the lakes and lagoons. The crocodile is the largest reptile in the island, tortoises and lizards are also found. There are a few species of venomous snakes, and of these the tic-polonga and the cobra da capello are the most deadly.

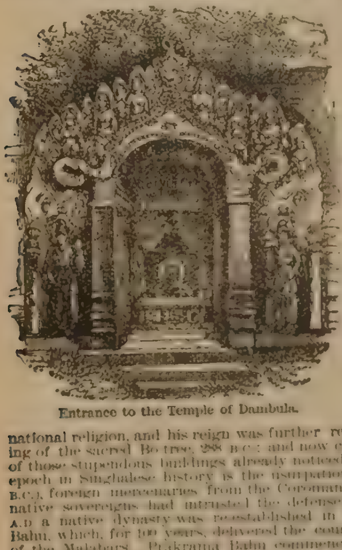
Inhabitants.—The Singhalese (*Sinhalese*, also spelt *Cingalese*), the most numerous of the natives of C., are supposed to be the descendants of those colonists from the valley of the Ganges who first settled in the island 543 B.C., and speak an Aryan language closely allied to the Pali (q.v.). In dress, the men, who have [illegible] features and slender limbs, look singularly effeminate, and consist of a comboy, or waist-cloth, very much resembling a petticoat; their long hair, turned back from the forehead, is confined with combs, and earrings are worn by [illegible]. [illegible] in the interior of C., but [illegible] many other classes, [illegible] are [illegible] under the influence of [illegible], of which the Singhalese [illegible] themselves. The Kandyans or Highlanders are a [illegible] race [illegible] represent- [illegible] the [illegible] by European settlers. The Moormen [illegible] from the early invaders of C. who from time to time [illegible] and contended with the Singhalese kings for the sovereignty of the island.

They have formed the chief population of Jaffna for full 2,000 years and constitutionally excel the Singhalese and Kandyans. The Moormen, who are the most energetic and intelligent of the native communities, are met with in every province as enterprising traders, and are generally believed to be of Arab descent. The 'burghers' of C. are people of European descent, who have become naturalized. Those of Portuguese extraction hold the lowest place, and are mostly tradesmen and artisans; but the Dutch burghers frequently fill responsible posts, and are employed in the government offices. There is besides a remarkable tribe of outcasts—the Veddahs—hardly removed from the wild animals of the forest, and believed to be descended from the Yakkhos, the aboriginal inhabitants of the country. They occupy a district in the e. part of the island, and have there preserved their ancient customs and manner of living unaltered for more than 2,000 years.

Religion. The Singhalese are devoted to Buddhism (q.v.), which is the prevailing religion of the island. Its sacred books are identical with those of Burma and Siam, and both record the doctrines of Guatama in the Pali language; the deviations are in matters of practice. The Malabar kings adulterated Buddhism to a considerable extent with Brahmanism, introducing the worship of Hindu deities into the Buddhist temples, and this continues more or less to be the case. More than once have the Buddhists of C. sought to restore the purity of their faith—at one time sending deputies to Siam, at another to Burma, with this object in view. The Burman or Amarapura sect have long been the reformers of Singhalese Buddhism, and maintain no very friendly relations with the party who, supported by the priests of Siam, sanction the worship of Hindu deities and the employment of the priesthood in secular occupations, uphold caste, and restrict the sacred books. Caste was acknowledged by the Singhalese prior to the introduction of Buddhism, which in principle is opposed to it; but so firmly was it rooted that it still endures, though more as a social than a sacred institution. Gautama Buddha is said to have visited C. three different times to preach his doctrine, and his *Sripada*, or sacred foot-step, on the summit of Adam's Peak (q.v.), still commands the homage of the faithful. Buddhism was not, however, permanently introduced into C. till 307 B.C. The influence of the priests gradually increased, and, by the piety of the Singhalese kings, monasteries were richly endowed, and at the present day no less than one-third of the cultivated land of the island is computed to belong to the priesthood, and is exempt from taxation. The priests of C. are divided into two orders; any member is at liberty to lay aside his ascetic character and return to a secular life. The most celebrated Buddhistic relic in C. is the *Dalada*, or sacred tooth of Guatama, at Kandy, which is guarded with jealous care, and preserved in an elegant shrine; but it is well known that the original relic was destroyed by the Portuguese, and the present substitute is a piece of discolored ivory, bearing no resemblance to a human tooth. Brahmanism or Hinduism proper is the faith of the Tamils or Malabars, but the Moormen are Mohammedans. After the expulsion of the Dutch Christians, Protestant missions to the natives of C. were commenced by the Baptists in 1812. The Wesleyan Methodists followed in 1814, the Americans in 1816, the Church of England in 1818, and Christian instruction has made some progress among the native populations. Schools, collegiate institutions, and female seminaries under the direction of the missionaries are in successful operation; and there is a government system of education.

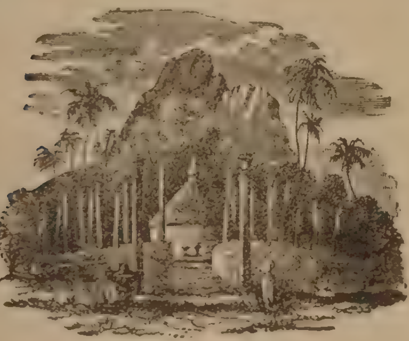
Sacred Buildings. In all Buddhist countries the sacred buildings present, with certain modifications, the same general character (see articles BUDDHISM, BURMA, etc.); and in Ceylon we find the three classes represented by the dagoba, or relic shrine, the temple proper, and the vihara, or monastery. The labor bestowed on these edifices in the early ages of the Singhalese monarchy is truly astonishing. In the n. of the island ruined cities buried for ages in the depths of the forest have been discovered, revealing monuments that in dimensions may almost compare with the pyramids of Egypt. The most remarkable of these vestiges of early civilization is Pollanarua, the ancient capital of Ceylon, and here is the celebrated Gal Wihara, a rock-hewn temple. The cave-temple of Dambulla was built [illegible] B.C., and is the most celebrated in the island. The bell-shaped, tapering dagobas of Ceylon, as relic shrines, answer to the pagodas of Burma—which they very much resemble—and the topes of Afghanistan. The ruins of the Jaytawanarama dagoba still reach the height of [illegible] ft.; its diameter is 300 ft.; and from base to pinnacle it is covered with trees of the largest size. The Ambustella of Mihintala is another remarkable dagoba. A very famous object in connection with Buddhism in Ceylon is the sacred Bo-tree (q.v.) of Anuradhapura. Among the antiquities of Ceylon must be mentioned those wonderful monuments of the former greatness of the Singhalese people—the ruined tanks, with which scarcely anything of a similar kind, whether ancient or modern, can be compared. Thirty colossal reservoirs, and about 700 smaller tanks, still exist, though for the most part in ruins. The restoration of these magnificent works of irrigation has been for some time carried on by the government. In 1888, Feb., the largest and most important tank in Ceylon, that of Kalawewa, was, after four years of labor, completely restored. It was built 460 A.D. to supply Anuradhapura with water, but has been ruinous for centuries. Now again it contains an area of seven square miles of water 20 ft. deep, and supplies smaller tanks more than 50 m. distant.

The history of C. may be conveniently divided into ancient and modern, and the latter into the Portuguese, Dutch, and British periods. The most famous of the Singhalese books is the Mahâvansa, a metrical chronicle in the Pali language, extending from the earliest period to 432 A.D., and continued to 1758. The story begins with the invasion of Wijayo (543 B.C.), son of a petty Indian sovereign in the country watered by the Ganges. He subdued the Yakkhos, the aboriginal inhabitants; founded a dynasty that held undivided sovereignty in C. for nearly eight centuries; and bestowed on his kingdom his patrimonial name of Sihala (whence Singhalese, C.). In the reign of King Devenipiatissa (307 B.C.), Buddhism was established as the national religion, and his reign was further remarkable by the planting of the sacred Bo tree, 288 B.C.; and now commenced the erection of those stupendous buildings already noticed. The next important epoch in Singhalese history is the usurpation of the Malabars (237 B.C.), foreign mercenaries from the Coromandel coast, to whom the native sovereigns had intrusted the defense of the island. In 1071 A.D. a native dynasty was re-established in the person of Wijayo Bahu, which, for 100 years, delivered the country from the dominion of the Malabars. Prakrama Bahu commenced a reign in 1153, the most renowned in the records of C. He devoted himself to religion and agriculture, and besides many notable religious edifices, he caused no less than 1470 tanks to be constructed, subsequently known as the 'seas of Prakrama.' Thirty years after the death of this monarch, the Malabars landed with a large army, and speedily conquered the whole island. In 1235, a native dynasty recovered a part of the kingdom. During the reign of Dharma Prakrama IX. the Portuguese first visited C. (1505), but it was in 1517 that they first formed a permanent settlement at Colombo for trading purposes. Their encroachments soon met with fierce resistance from the patriotic Kandyans. 'Amity, commerce, and religion,' was the Portuguese motto; but their rule in C. is a sad story of rapacity, bigotry, and cruelty. They were at last driven from the island by the Dutch in 1658, after a contest of twenty years, when the fanatical zeal of Roman Catholic sovereigns for the propagation of the faith was replaced by the earnest wish of the Dutch traders to intrench their trading monopoly. But the purely military tenure of the Dutch was


Entrance to the Temple of Dambula.

destined to give place to the colonization of the British. It was during the great European war succeeding the French revolution that the English gained possession of the island. On the 1795, Aug. 1, an expedition under Col. James Stuart landed at Trincomalee, which was speedily captured, and finally the garrison of Colombo surrendered on the 1796, Feb. 16. By this capitulation all the Dutch settlements and strongholds in C. were ceded to the English; though the island was not formally annexed to the British crown till the peace of Amiens, 1802, March 27. The native sovereigns, however, continued in the possession of their mountain territory; but at length the Kandyan king, Wikrama Raja Singha, after perpetrating the most frightful atrocities on his own people, seized and murdered certain native merchants, British subjects, trading to Kandy. War followed, 1815, Jan.; Kandy was taken, and the tyrant sent a captive to the fortress of Vellore. On 1815, March 2, a treaty was concluded with the native chiefs, by which the king was formally deposed and his territories annexed to the British crown.

After the settlement of the Kandyan provinces, attention was drawn to the hill country of C. as a probable field for the profitable investment of British capital and energy, and among other agricultural enterprises the cultivation of coffee was entered upon. The condition of soil and climate proved favorable, and the abolition of slavery in the West Indies, and the consequent labor difficulties, caused a rush toward C., and the area under coffee cultivation rapidly extended. The enterprise, though subject to all the vicissitudes incidental to tropical agriculture, steadily grew, and coffee soon became the staple export from the island; and the revenue directly and indirectly derived from it enabled successive governors to bridge rivers, to make roads and railways, and to restore many of the ancient irrigation works which, in the period antecedent to British rule, had fallen into disrepair. In 1869, however, a fungus (*Hemileia vastatrix*) attacked the leaves of the coffee-trees, and the energy of the tree which had hitherto produced fruit was now required for the constant reproduction of leaf. Everything which practice or science could suggest was tried to mitigate or overcome the pest, but in spite of all efforts it steadily increased in virulence, and the coffee planters were obliged to turn their attention to other products of the soil.



The Ambustella Dagoba, Mihintale

Cinchona, cacao, cardamoms, and many other products were introduced with varying success, but it soon became plain that C. was capable of becoming a great tea-producing country, and tea has become the chief factor in restoring the financial equilibrium.

Cinnamon and cocoanut cultivation are chiefly in the hands of natives; tea, cinchona, cacao, and cardamom cultivation in the hands of Europeans, and the export table shows how through the energy of the planters new products have to a great extent replaced coffee.

	Coffee. cwt.	Cinchona Bark. lbs.	Tea. lb.
Year ending Sept. 30 1873......	995,493	....	....
" " " " 1878......	624,292	173,497	3,515
" " " " 1883......	260,053	6,925,950	1,522,882
" " " " 1887......	180,429	14,389,184	12,913,886
" " " " 1889......	89,698	*.........	34,346,432

* Value of cinchona exported in 1889 to Great Britain $1.159,318.

Between 1883 and 1887 the export of cacao rose from 3,588 to 16,638 lbs., and of cardamoms from 21,655 to 321,560 lbs. Between 1873 and 1887 the export of cinnamon rose from 1,265,756 to 2,290,844 lbs. Between 1873 and 1883 that of cocoa-nut oil from 165,274 to 396,309 cwt.; of coir yarn from 56,921 to 98,696 cwt.; of plumbago from 168,627 to 279,057 cwt.; while that of ebony fell from 46,635 to 18,273 cwt. Minor exports are oils, fibres, and dyes.

Of the mineral products of C. few statistics are available. Tin, platina, copper, and black oxide of manganese, are found in the s. provinces and probably elsewhere. Quicksilver mines were formerly worked in the vicinity of Colombo. Graphite is quarried to a considerable extent; in 1874 the export of this material amounted to 150,000 cwt. The iron ore has been worked by the natives from very ancient times, and their tools manufactured from it are valued by them more than any imported from Europe; the methods of manufacture are primitive, but the metal produced is of superior temper. Nitre and nitrate of lime are found, as elsewhere, in caves, and salt is mined from natural beds and also produced by evaporation of brine. Coal has not been found in profitable quantity, but is still looked for. The revenue from precious stones and pearls has been mentioned above. The moon-stones and garnets of C., especially a variety of the latter called cinnamon-stone, are celebrated, as well as the more costly gems.

C. is the largest and most important of what are known as the crown colonies of the British empire. The government is administered by a governor aided by executive and legislative councils (the former consisting of five members, the latter of fifteen, partially elective) and municipal councils. Local boards and village tribunals give a measure of self government to the people. The population of C., 2,763,984 at the census of 1881, has risen to about 3,000,000, of whom 2,000,000 are Singhalese, 750,000 Tamil immigrants and settlers, 200,000 Moormen (Mohammedans of Arab descent), 5,500 Europeans, 20,000 Eurasian descendants of Portuguese and Dutch, 2,500 Veddahs, 22,000 mixed races.

The revenue, which in 1882 was $3,881,702, was in 1886 $4,058,415, and in 1889 $4,895,960; but owing to the depreciation of the rupee, the value was $5,520,713 in 1882, $4,869,570 in 1886 and $5,101,550. The total annual trade is about $50,000,000. There are 2,500 miles of metalled roads; 185 miles of railways, 167 post offices and 30 telegraph offices. There were in 1889 158,000 scholars receiving instruction, or one in twenty of the population, in the government schools and those of the various religious denominations. See Ceylon, by Sir James Emerson Tennent (2 vols., 1859); Captain Suckling's Ceylon (2 vols., 1876); The Colonial Office List for the current year; Ceylon in the Jubilee Year, by John Ferguson (1887).

CHILI.—1.

CHILI, *Chil'-ē* (written CHILE by its own citizens): one of the republics of South America. It is situated on the w. coast, and may be described as a long strip of territory lying between the summit of the Andes and the Pacific ocean, extending from about the 18th parallel of s. lat. to the s. extremity of Tierra del Fuego. Boundaries: n. by Peru, e. by Bolivia and Argentine Republic, w. and s. by the Pacific ocean. By recent treaties the territory of C. has been considerably extended. After the war with Bolivia and Peru (1879-81), C. acquired the coast between 23° and 25° s. claimed by Bolivia, and annexed the Peruvian province of Tarapacá. She also occupies the Peruvian provinces of Arica, and Tacana, subject to the payment of a war indemnity by Peru. In the s. the disputed claims of C. and Argentina to Patagonia have been settled by C. taking all territory and islands s. of the 52d parallel and w. of 68° 35′ w. This includes the larger portion of Tierra del Fuego. The strait of Magellan is by treaty considered neutral. The length of C. is about 2,500 English m. Its breadth varies from 40 to 200 m. The total area is estimated at 293,970 sq. m. The Andes extend in two parallel lines throughout nearly the entire length of the country. Between these two ranges of the "Cordillera" there is a central valley or tableland which attains its greatest breadth between 33° and 40° s. The streams in the n. are of little importance, being mostly shallow brooks, which, after a short course, are licked up by the thirsty land; in the s. they are larger and more numerous, although most are navigable for only a few miles. The principal are Maipo, which waters the valley of Santiago; the Máule; the Biobio (q.v.), the largest river in the country; the Cauten, or Rio Imperial; the Bueno, and the Callecalle, or Rio de Valdivia (100 m.), the most important of all, because of the sheltered harbor at its mouth. In the s. are also many deep lakes, such as Llanquihue (30 m. long by 22 broad) and Ranco (32 m. by 18). Mineral waters, chiefly saline and sulphurous, are abundant; the principal spa is at Chillan (q.v.). The most important islands are those constituting the province of Chiloé (q.v.); Juan Fernandez (q.v.) also belongs to C. Owing to its great extension from n. to s., C. comprises regions of very different nature and climate. The n. provinces, Tarapacá, Atacama, and part of Coquimbo are arid, rainless districts, where the principal industry is mining and extraction of saltpetre. The middle and southern provinces, viz.: Aconcagua, Valparaiso, Santiago, Colchagua, Curicó, Talca, Linares, Máule, Nuble, Concepcion, Arauco, Biobio, and Valdivia, are agricultural and viticultural, and have also valuable coalfields. The Patagonian region is densely wooded and sparsely inhabited by a few Indians. The climate of C. is temperate. In the n. it is moderately hot and rainless, but banks of clouds always hang overhead, and heavy dews fall at night. In the s. it is dry for about eight months of the year, and rainy the other four. The temperature is remarkably even and pleasant, and always cool at nights. The s. wind blows fiercely during many days of summer dry and cold; the n. wind brings heat, tempest, and rain; other winds are unknown. In n. C. generally the land is poor and of hardly any value for agriculture, which, indeed, is carried on in a very primitive fashion; but the soil of the valleys, where large herds of cattle graze, is very fertile. Vines also grow well on the hillsides, and the wines of the country are superseding the French red wines. The Andes are almost everywhere volcanic, covered with perpetual snow. The highest peak is Aconcagua, [illegible] ft. The average height of the great range is [illegible]. There are many volcanic peaks, mostly extinct. Among these may be mentioned Tupungato, [illegible], Chillan, Osorno, Villa Rica, etc. C. is subject to frequent shocks of earthquake, and occasionally to destructive *terremotos*. The most notable of these recorded was in 1822, when the coast near Valparaiso was thrown up permanently between [illegible] feet; this elevation extended over [illegible] m. In 1835 Concepcion and Talcahuano were destroyed by a terrible earthquake, which produced disaster all over the southern provinces. In 1868 Iquique was destroyed by a shock which was felt throughout the northern districts, and again in 1875.

The population of C., according to the computation for 1890 was [illegible], being about [illegible] to the sq. m., making the population, including [illegible] [illegible] than that returned by the census, [illegible]. After the addition of the new territories acquired, it is computed that the total increase of population since the preceding census of 18[illegible] was [illegible] per cent. The number of foreign residents increased from [illegible] to [illegible] during the same period. Santiago, the capital, has about [illegible] inhabitants, and Valparaiso [illegible]. The natives of C. are a mixture of Spanish with the Araucanian Indians. In the upper classes the race has been kept more purely Spanish than in any other South American country. The working classes are laborious and docile, but it cannot be said that there is as yet any effectual protection for property. Wages are still very low. On estates laborers receive about 36 cents per day, but are allowed a patch of land to cultivate for themselves. Since the acquisition of the territory of the Araucanian Indians in 1881 the government has been anxious to attract European emigrants, but British adventure in that direction has been deprecated. There is practically no demand for English mechanics, and the manufactures, properly so called, are confined to copper-smelting, sugar refining, tanning, brewing, manufactures of soap and candles, biscuits, boots and shoes, woolens, flax, and nitrates. A special effort is being made to introduce new manufacturing industries which will be protected by tariff.

The established religion of C. is Roman Catholic, but public opinion is now very liberal, and other religions are tolerated. Education receives much attention. By statistics of 1886 there were 842 state schools, with a staff of 1,222 teachers, having 78,810 scholars on the books; there were also 532 private schools, with 22,880 scholars. In 1887 the state schools had increased by 88 and the pupils by 2,532. Government proposed in 1888 to spend $2,665,000 in the erection of additional school houses. There is a first-class university at Santiago and a lyceum in every provincial capital. There are 100 weekly daily, monthly, or other periodicals published in C., Santiago alone having eight daily four-page papers. The language spoken in C. is Spanish, but with many local words of Indian origin.

The value of imports in 1887 was $37,445,764, and of exports $45,883,468; the imports for 1889 amounted to $48,811,510, and exports to $49,472,325; a third of the imports and two-thirds of the exports were British, the German and French trade being next in importance. Mineral products represented five-sixths of the total exports. The chief articles of export were nitrate and iodine, copper, silver, gold, manganese, hides, wool, wheat, and barley. The wheat exported was 5,500,000 bush., valued at about $4,548,000. The annual product of wheat is about 21,000,000 bush.; wine, 21,000,000 gals.; copper, 40,000 tons; silver, 335,000 lbs.; gold, 1,000 lbs.; coal, 10,000,000 tons; nitrate, 800,000 tons. The nitrate interests of C. are of vital importance, the royalty levied on exported nitrate yielding an amount which exceeds the sum of the general import duties. The principal imports were cotton, woolen, and jute goods, iron, hardware, coal, machinery, timber, rice, sugar, earthenware, cement, paper, beer, glassware, kerosene, tallow, matches, tea, and coffee.

The railway system of C. is well developed. A government broad-gauge line runs from Valpariso to Santiago, crossing the coast-range of the Andes, and thence southward through the central valley to Concepcion, and through Araucania toward Valdivia, making a total length of about 1,700 m. A branch from the Valparaiso and Santiago line also runs to Santa Rosa at the foot of the Andes, from which a line is now in progress, to unite with the Argentine railway system, via the Uspallata Pass, which it will cross at the elevation of 9,843 ft. above sea-level by means of a tunnel 5¼ m. in length. When this is finished there will be a through communication from the Pacific to Atlantic oceans, and by many it is argued that this will be the shortest route from England to the Australian colonies. The length of the railway from Valparaiso to Buenos Ayres will be 880 m. In the northern provinces there are several mineral railways belonging to English companies. One of these, the Antofagasta, is now being prolonged to Bolivia.

The length of telegraph lines at the beginning of 1890 was reported to be [illegible] m., of which [illegible] belonged to the state. The number of telegraph offices at the same date was [illegible], [illegible] belonging to the state; there were carried [illegible] messages [illegible] of private lines. The post office in 1889 transmitted [illegible] letters and [illegible] 715,[illegible] papers, and printed matter. There were [illegible] post offices open in 1890.

By a law passed 1885 [illegible] the standing army cannot exceed 5,885 men besides a battalion of coast artillery. In addition to the regular army there is the national guard [illegible] with a total of about [illegible]. The government has also [illegible] coast and has made large purchases of guns. The navy [illegible] 2 iron-clads of 2,033 tons each, 1 monitor of 1,130 tons, 3 corvettes of about 1,100 tons each, 2 gunboats, 2 cruisers and [illegible] torpedo-boats of from 40 to 400 horse power. An armored [illegible] tons and

2 cruisers of 2,080 tons each are now building in France and 2 torpedo boats in England. The naval force in 1889 comprised a total of about 1,600 men.

The financial position of C. is satisfactory, and its credit stands higher than that of any other South American state, as is proved by the fact that it has been able to borrow money in the London market at the rate of 4½ per cent. per annum. At the end of 1887 the foreign debt amounted to about $30,877,000, and the internal debt, including forced paper currency in circulation, to $37,219,105. The revenue for 1888 was stated at $30,030,000, and the expenditure at $30,504,143, but in this was included a large number of extraordinary expenses, so that in reality there would be, as in several preceding years, a considerable surplus. An idea of the progress of the country may be formed from the fact that the customs revenue, which in 1856 amounted to $3,193,420, in 1866 to $2,351,130, and in 1876 to $5,715,550, in 1886 reached $18,030,586. The current money in C. previous to the late war was gold and silver and a restricted bank-note issue which stood at par. The necessities of the government caused an issue of inconvertible paper notes which subsequently fell to a serious depreciation. The par value of a dollar is equal to 5 francs or a little over 96 cts., but its value in exchange during the war with Peru was as low as 32 cts. Its value in 1888 was about 52 cts. Owing to this circumstance it is difficult to form an exact estimate in sterling of the exports and imports. Elaborate statistics are regularly published by the government. The values are arrived at by official valuation, which is not always in proportion to the real value. Government accounts are also still kept as though the dollar was equivalent to 96 cts. The foregoing statistics must therefore be modified in view of these conditions.

The constitution of C. is republican and based upon that of the United States. Every citizen is entitled to a vote who can read and write and prove that he earns $150 or upward a year, and is twenty-one years of age if married, or twenty-five if single. The president is appointed by a body of electors chosen by the people. His term of office is five years, and his salary $18,000 per annum. He is not eligible for re-election except after an interval of one term. The cabinet consists of six ministers, viz.: of finance, the interior, foreign affairs, war, commerce and public works, and of justice, public worship, and instruction. The council of state consists of five members nominated by the president, and six appointed by congress. The legislature is composed of two chambers, viz.: the deputies, about 100 in number, being in proportion of one to 20,000 inhabitants; and the senate, numbering one to every five deputies. Deputies must have an income of at least $500, and senators of $2,000. The elections are conducted with considerable fairness, but as the majority of the representatives chosen have come from the ranks of a few leading families C. has been well described as 'an aristocratic republic.' This state of affairs, however, has brought excellent results, as the Chilian government has long had a deservedly high reputation for ability and integrity.

History. The name C. is supposed to be derived from an ancient Peruvian word signifying 'snow.' The northern portion, as far as the river Maule, formed a part of the dominions of the Incas of Peru. The southern was held by the valiant Araucanians, the only aboriginal race which was not subdued by the Spaniards, and which until a few years ago maintained their independence against the Chilians. The first European to land in C. was the Portuguese discoverer Magellan, after his famous voyage through the strait which now bears his name. He landed at Chiloe in 1520. After the conquest of Peru by Pizarro, an expedition was made to C. from that country overland under the leadership of Diego de Almagro in 1535. This expedition penetrated as far as the Rio Claro, but returned unsuccessful. Another was sent under command of Pedro Valdivia in 1540, which succeeded in obtaining the territory as far as the river Maipu. Santiago, the capital, was founded by Valdivia in 1542. During the colonial period the governors of C. were appointed by the viceroys of Peru. In 1810 a revolt against the Spanish power broke out, in which Don Bernardo O'Higgins, son of one of the last viceroys of Peru, but a native of C., played a conspicuous part, and finally became the first dictator of the new republic. The conflict between the Spanish troops and the revolutionary army continued until 1826, when peace was definitely secured and C. left to govern itself. The first constitutional president was Gen. Blanco Encalada. The government was unsettled until 1847. A revolution broke out in 1851, but since then there has been no serious attempt to overturn the government by force of arms, until last year. In 1864 C. gave Peru very valuable support in her war with Spain. Valparaiso was bombarded by the Spaniards in 1866. In 1879 C. declared war against Bolivia, and immediately thereafter against Peru, with which Bolivia was allied. For a time the Peruvian fleet kept the Chilians in check, but in Aug. 1879 the Peruvian ironclad Huascar was captured by the Chilian men-of-war Cochrane and Blanco Encalada, both armor-plated. After this event the success of the Chilians was uninterrupted. Peruvian towns were bombarded, and their other war-ships captured. Finally Lima was taken by storm on 1881, June 21. The Chilians occupied Lima and Callao until 1883, Oct. 30, when a treaty of peace was signed. By this a portion of Peruvian territory (see above) was ceded to C.

The President, Balmaceda, who had been elected as the representative of the popular or democratic party, governed with such ruthless ferocity, that the moneyed or aristocratic element determined to overthrow him. A majority of congress declared against the dictator, and the navy, under Admiral Montt, took the side of the congress. The insurrectionary party occupied the nitrate districts and so supplied themselves with the sinews of war. The situation was a singular one. Balmaceda was unable to march his forces n. The insurgents were not strong enough to take an offensive movement s. The sinking of the Blanco Encalada, when anchored and disabled by having her machinery under repair, was a blow to the congressional party, and their attempt to import arms from the United States, with the resulting seizure of the Itata and strained feeling in the United States, cast a gloom on their cause. Meanwhile Balmaceda's cruelties were so atrocious that the congressionalists plucked up courage, and sailing s., landed near Valparaiso, cut the railroad to Santiago, and, after two bloody battles completely defeated the dictator's troops and entered Valparaiso and Santiago.

Balmaceda committed suicide. Admiral Montt was chosen president of the republic, and the country is rapidly resuming its normal state of prosperity.

An unfortunate attack made during the excited period immediately following the success of the congressionalists on the sailors of the U. S. cruiser Baltimore, led to very strained feelings between the two nations. Preparations were made for war, and an ultimatum was dispatched to C. by the United States government. The reply of C. was, however, prompt and satisfactory. An apology was tendered for the regrettable occurrence, everything offensive in the way of dispatch or demand to the United States was withdrawn, and reparation offered, the amount and kind to be settled by the Supreme Court of the United States. Upon this the trouble disappeared, and amity was restored between nations who never ought to quarrel.

See Sir Horace Rumbold, Le Chili (Paris, 1877); Robano, Chili (Paris, 1882); Ochsenius, Chile, Land und Leute (Leip., 1884); Boyd, Chili and the Chilians During the War (1881); Clements R. Markham, The War between Chili and Peru (1883); Lord Cochrane, Concerning Chili, in the Fortnightly Review (1884); the Historia General, by Arana (Valparaiso, 4 vols., 1883), and that by Rosales (1878).

CHINA, *chī'-nă*: the Chinese Empire, consisting of China Proper and Manchuria (q.v.), with its dependencies of Mongolia, I-li, and Tibet (q.v.), embraces a vast territory in Eastern Asia only inferior in extent to the dominions of Great Britain and Russia. The dependencies are not colonies, but subject territories; and China Proper itself, indeed, has been a subject territory of Manchuria since 1644. It will be convenient, however, to confine ourselves in this article to the former.

China is not known among the people themselves as the designation of the country, and the use of the term is spreading among them only through its all but universal employment by other nations. In the oldest classical writings the country is called Hwâ Hsiâ, 'The Flowery Hsiâ.' Chung Kwo, 'The Middle State,' or kingdom, grew up in the feudal period as a name for the royal domain in the midst of the other states, or for those states as a whole in the midst of the uncivilized states around them. The idea of its being 'in the middle of the earth' did not enter into the designation, though the assumption of universal sovereignty, *de jure* if not *de facto*, that has been so injurious to the nation, appears in the very ancient names T'ien hsiâ, 'all beneath the sky,' and Sze Hai, 'all within the four seas'. In the treaties with western nations concluded in the present century the empire is called by the title of the reigning dynasty, 'the Kingdom of the Great Pure (dynasty);' and this in accordance with the practice of Chinese writers, who are fond of calling their country 'the Land of Han,' and 'the Hills of T'ang,' from the two great dynasties so named.

Serica, Sera, and Seres, in Ptolemy and other ancient geographers, indicate China and the Chinese as the country and people producing silk, being taken from *sze* (silk), originally the pictorial symbol of a packet of cocoons.

Cathay, a poetical name with us, and still apparent in the Russian name for China (Kitai), came into use as a designation for the northern part of the empire through Marco Polo and other medieval writers. It was the Persian designation of the Tartar K'itan, tribes which contended with the Sung dynasty for the supremacy of the empire, then merged in the dynasty of Chin (*Kin*), and were extinguished by the Mongol conquest. The country south of the Yang-tsze River was then styled Manzi or Manzy, from the old name of Man for all the southern aboriginal tribes.

The name China has come to us from India through Buddhism. In a conversation (apocryphal probably), related by Nien Ch'ang in his History of Buddhism between the Han emperor who welcomed them to his capital and the first two of the Buddhist missionaries, there appear the names of Chi-na and Chin-tan ('the Land of Chin'). We do not know how long before our first century the name had obtained in India, nor how it originated. If it had begun with *ts* instead of *ch*, the view of many that it was derived from the great state of Ts'in, whose fortunes culminated in the first but short-lived imperial dynasty (221-206 B.C.), might have been considered as certain. This question must be left as hardly capable of determination, as also how it is that we find the empire called by other Asiatic peoples Sin, Tsin, Tsin-stan, and the inhabitants Tsinistae. 'The Land of Sinim,' in Isa., xlix., 12, should be added to these denominations.

China Proper was divided in the K'anghsi reign (1662-1722) into eighteen provinces; and since the recent separation of the island of Formosa from Fukien, and its constitution into an independent province (as Taiwan), we may say that it now consists of nineteen. These form one of the corners of the Asiatic continent, having the Pacific Ocean on the south and east. They are somewhat in the shape of an irregular rectangle, and lie, if we include the island of Hainan, between 18° and 40° n. lat., and 98° and 124° e. long. Their area has been given at [illegible] sq. m., being more than twenty-five times that of England; but that estimate does not include large additions to Chih-li on the north-east and Kan-su on the north-west, made since the K'anghsi reign. Including these, the area is at present not much, if at all, short of 2,000,000 sq. m. The whole empire, without Corea, has an area more than twice as large.

On the north, there are four provinces—Chih-li, Shan-hsi, Shen-hsi, and Kan-su; on the west, two—Sze-ch'wan (the largest of all) and Yün-nan; on the south, two—Kwang-hsi and Kwang-tung; on the east, four—Fu-chien (Kien—the initial *ch* used to be pronounced as *k*), Cheh-chiang, Chiang-su, and Shan-tung. The central area inclosed by these twelve provinces is occupied by Ho-nan, An-hui, (Gan and Ngan-hwei), Hû-pei, Hû-nan, Chiang-hsî, and Kwei-châu (a poor province, but with parts of it largely occupied by clans or tribes of aboriginal Miâo-tsze). The island of Formosa, lying off the coast of Fû-chien, 90 miles w. of Amoy, is about 235 miles in length, fertile, and rich in coal, petroleum, and camphor wood. The first settlement of a Chinese population only took place in 1683, and the greater part of it is still occupied by aboriginal tribes of a more than ordinarily high type.

The population of these provinces is immense, but the various censuses that have been adduced by inquirers vary and fluctuate so much, that the writer entirely agrees with the late Dr. Williams in holding that, 'until there has been a methodical inspection of the empire' published and guaranteed by the government, questions concerning the population must be held in abeyance (The Middle Kingdom, 2d ed., preface, p. ix). The Almanach de Gotha for 1888, basing its conclusions on reports of the imperial maritime customs, gives for all the provinces a total of 350 millions. The late ambassador in England, however, the Marquis Tsêng, writes in the Asiatic Quarterly Review of 1887, January, of 'the awakening of 300 millions to a consciousness of their strength.' Our own impression is that 400 millions is not an overestimate of the population of the Chinese empire. Of the twenty-two ports open to foreign commerce, only five have a population under 50,000. That of Canton is estimated at 1,600,000; of Tien-tsin at 950,000; of Han-k'au at 750,000; of Fû-châu at 630,000; of Shang-hai at 355,000; of Ning-po at 240,000.

As to the physical features of China Proper, the whole territory may be described as sloping from the mountainous regions of Tibet and Nepal toward the shores of the Pacific on the east and south. The most extensive mountain range in it is the Nan Ling, or Southern Range, a far-extending spur of the Himalayas. Commencing in Yunnan, it bounds Kwang-hsî, Kwang-tung, and Fû-chien on the north, and, passing through Cheh-chiang, enters into the sea at Ning-po. It thus forms a continuous barrier, penetrated only by a few steep passes (of which the Mei Kwan is the best known) that separates the coast regions of south-eastern China from the rest of the country. This great chain throws off numerous spurs to the south and east, which, dipping into the sea, appear above it as a belt of rugged islands along the sea-board. Of this belt the Chusan Archipelago is the most northerly portion.

North of this long range, and w. of the 113th meridian, on to the borders of Tibet, the country is mountainous, while to the e., and from the great wall on the n., to the Po-yang lake in the s., there is the Great Plain, comprising the greater part of the provinces of Chih-lî, and Shan-tung, Ho-nan, An-hui, and Chiang-sû—an area of about 210,000 sq. m., estimated to support a population of 177,000,000.

In the provinces west from Chih-lî—Shan-hsî, Shen-hsî and Kan-sû—the soil is formed of what are called the loess beds, which extend even to the Koko-nor at the head waters of the Yellow river. The name loess is adopted from that of a Tertiary deposit which appears in the Rhine valley—a brownish-yellow earth, extremely porous, crumbling easily between the fingers, and carried far and wide in clouds of dust. It covers the surface to an enormous depth, and is apt to split perpendicularly in clefts which render travelling difficult. And yet by this cleavage it affords homes to multitudes of the people, who live in caves excavated from it in the terraces of the cliffs. Sometimes whole villages are so formed in terraces of the earth that rise above one another. But the most valuable quality of the loess is its fertility, the fields [illegible] without requiring any other manure than a sprinkling of fresh loam. The husbandman in this way [illegible] harvest two and even three times a year. [illegible] to be a sufficient rainfall [illegible] Shan-hsî, has been the home for [illegible] of the [illegible], and it is no doubt to the distribution of this earth over its surface that the Great Plain owes its fruitfulness.

The rivers of China [illegible] the most part [illegible] in the north, and [illegible] features. Two of them stand out conspicuous among the great rivers of the world—the Ho, or Hwang-ho, or Yellow river, and the Chiang, generally [illegible]. They rise not far from each other, the Ho in the [illegible], called in Chinese, the 'Sea of Stars' [illegible] springs [illegible] in 35½ n. lat., and 9[illegible]-

e.long.; and the Chiang (Kiang), from among the mountains of Tibet. The Ho pursues a tortuous eastward course to Kan sû, and the Chiang, with a southern inclination, enters China at Batang, in Sze-ch'wan. From the prefecture of Lan-chau the Ho flows north-east more or less, along the Great Wall, till it arrives nearly at the northern limit of Shen-hsi, when it turns directly south, and flowing for 500 miles between that province and Shan-hsi, comes to the edge of the Great Plain, and pursues an eastward course. The Chiang, on the contrary, flows south from Batang, between Sze-ch'wan and Yün nan, till it reaches the southern limit of the former province. Then it turns north, and holds its way eastward through Sze-ch'wan and the other intervening provinces till it enters the ocean in lat. 32°. The Ho does not pursue so regular a course. Its direction, indeed, from the edge of the plain is eastward, but in the course of time it has ever and anon changed its channel. Chinese history opens, in the Shû King, in the 24th century B.C., with an account of one of its inundations, described in terms which have suggested to some students the Noachian deluge, and the labors on it of the Great Yü. The terrible calamities caused by it so often have procured for it the name of 'China's Sorrow.' So recently as 1887 it burst its southern bank near Châng Châu, and poured its mighty flood, with hideous devastation and the destruction of millions of lives, into the populous province of Ho-nan. It is now the task of the Manchû rulers of the empire to remedy this disaster, and regulate the terrible river for the future. Both the Ho and the Chiang must have a course of more than 3,000 miles. These two rivers are incomparably the greatest in China, but there are many others which would elsewhere be accounted great. And among those rivers we may well account the Grand Canal, intended to connect the northern and southern parts of the empire by an easy water communication; and this it did when it was in good order, extending from Peking to Hang-châu in Cheh-chiang, a distance of more than 600 miles. The glory of making this canal is due to Kublâi, the first sovereign of the Yüan dynasty, of whom Marco Polo says: 'He has caused a water communication to be made in the shape of a wide and deep channel dug between stream and stream, between lake and lake, forming, as it were, a great river on which large vessels can ply.' Steam communication all along the eastern seaboard from Canton to T'ien-tsin has very much superseded its use, and portions of it are now in bad condition, but as a truly imperial achievement it continues to be a grand memorial of Kublâi. Even Barrow wrote of it in 1804: 'In point of magnitude our most extensive inland navigation in England can no more be compared to the grand trunk that intersects China, than a park or garden fish pond to the great lake of Winandermere.'

After the Grand Canal a few sentences may be given to the Great Wall, another vast achievement of human labor, especially as in 1887 there were paragraphs in many of our newspapers representing its existence as merely a myth. Not so useful as the canal, and having failed to answer the purpose for which it was intended to be a defence against the incursions of the northern tribes, there it still stands, while the walls of Hadrian and Antoninus in our own country have crumbled to the ground, and their course can only be indistinctly traced here and there. It was in 214 B.C. that Shih Hwang Ti determined to erect a grand barrier all along the north of his vast empire. The wall commences at the Shan hâi Pass (40° N. lat., 119° 50' E. long.), where it was visited by a squadron of Her Majesty's vessels of war in 1860, and was seen, as Lord Jocelyn describes it, 'scaling the precipices, and topping the craggy hills of the country.' From this point it is carried westward till it terminates at the Chia-yü barrier gate, 'the road through which leads to the Western Regions.' Its length in a straight line would be 1,255 miles, but if measured along its sinuosities this distance must be increased to 1,500. It is not built so grandly in its western portions after it has met the Ho river; nor should it be supposed that to the east of this point it is all solid masonry. It is formed by two strong retaining walls of brick, rising from granite foundations, the space between being filled up with stones and earth. The breadth of it at the base is about 25 feet, at the top 15; and the height varies from 15 to 30 feet. The surface at the top was covered with bricks, and is now overgrown with grass. What foreigners go to visit from Peking is merely a loop wall of later formation, inclosing portions of Chih-li and Shan-hsi.

The lakes are very many, but not on so great a scale as the rivers. It will be sufficient to mention three—the T'ung-ting Hû, the largest, having a circumference of 220 miles, and entering into the names of the provinces Hû-pei and Hûn-an; the Po-yang Hû, in the north of Chiang-hsi, the seat of the manufactories of the best porcelain; and the T'ai Hû, partly in Chiang-sû and partly in Cheh-chiang, famous for its romantic scenery and numerous islets.

The country is rich in the products necessary for the support and comfort of the people, and for the adornment of their civilization. There is in it every variety of climate; but the average temperature is lower than in any other country in the same latitude. The Chinese themselves consider Kwang-tung, Kwang-hsi, and Yün-nan to be less healthy than the other provinces; but foreigners using proper precautions may enjoy their life in every province.

Wheat, barley, maize, millet, and other cereals are chiefly cultivated in the northern regions, and rice in the southern. The writer once had a bag of oatmeal sent to him from Kalgan, north of the loop wall mentioned above. Culinary or kitchen herbs, mushrooms, and aquatic vegetables, with ginger and a variety of other condiments, are everywhere produced, and largely used. From Formosa there comes sugar, and the cane thrives also in the southern provinces. Oranges, pummeloes, lichis, pomegranates, peaches, plantains, pine-apples, mangoes, grapes, and many other fruits and nuts, are supplied in most markets. Tea is noted below. Opium has been increasingly grown of late within the country. The Chinese are emphatically an agricultural people. From time immemorial the sovereign has initiated the year, which begins with the spring, by turning over a few furrows in the 'sacred field;' and in each province the highest authority performs a similar ceremony to impress on the people the importance of husbandry. The hoe holds the place of our spade; the plough retains its primitive simplicity; irrigation is assiduously and skilfully employed. The *tsing*, or well, which was anciently in the centre of the plots of land assigned to the families which cultivated them, is still seen in the north; and where the canal or river beds are below the level of the fields much ingenuity is displayed in raising the water to them by wheels and scoops. No other people show such a sense of the value of human ordure as manure. Nothing that comes from man or beast is allowed to be lost. All is preserved and prepared for use. This does not conduce to the cleanliness of the towns or the fragrancy of the country; but it largely increases the productiveness of the field and the garden.

'The horse, the ox, the sheep, the fowl, the dog, the pig;
These are the six animals which men breed for food,'

are well known lines; but we do not now hear of horses being eaten; and though dogs are to be seen in baskets in the markets, or cut up on the stalls, they are such as have been carefully fed. Fowls, including ducks and geese, are abundantly bred and consumed; of ducks numerous multitudes are artificially hatched. Comparatively little beef is eaten, not so much because of the prevalence of Buddhism, which forbids the taking of life, as from a feeling of gratitude to the animal which renders the most important service in tilling the ground. Pork is the most used of all flesh meat, and the number of pigs is enormous. In addition to these animals the seaboard, rivers, lakes, and ponds supply an immense quantity of excellent fish taken by the net. Angling is not much practised; but a boat with its complement of cormorants trained to dive for the fish and bring them to their masters is a pleasant sight. Shell-fish also yield their quota to the food of the people. An idea is prevalent that the Chinese are gross feeders, but this is true only of the very poor. A first-class Chinese dinner with its twenty-seven courses may hold its own with most European tables. The famed birds'-nest soup is a misnomer. Nests of the *Collocalia esculenta*, brought from the Indian Archipelago, are sliced into other soup, and supposed to impart to the compound an invigorating and stimulating quality; but the writer never felt that it added either to its flavor or piquancy.

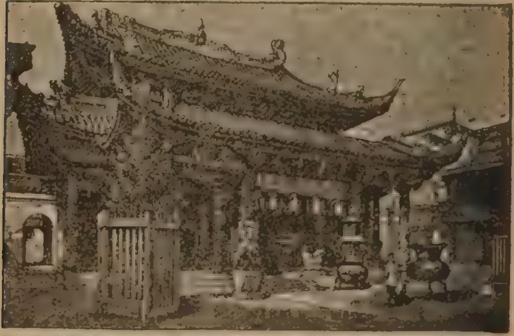
For beverages the use of tea has nearly superseded every other. The plant does not grow in the northern parts, but is grown extensively in the western provinces, and south of the Great Chiang. The infusion of the leaves was little, if at all, known in ancient times, but now its use is universal. Fu-chien, Hû-pei and Hû-nan produce most largely the black teas; the green comes chiefly from Cheh-chiang and An-hui; both kinds are grown in Kwang-tung and Sze-

-ch'wan. Next to silk, if not equally with it, tea is China's most valuable export; and by nothing does it contribute more to the comfort and well-being of the rest of the world. To the people themselves its use has been invaluable, and more than anything else has promoted the temperance that is characteristic of them. They are acquainted with distillation, and from rice and millet produce alcoholic liquors. Their literature abounds from the 12th century B. C. to the present dynasty with warnings against the injury of strong drink; but more effectual than the proclamations of authority has been the habit of drinking tea. As compared with the populations of western nations, the Chinese are sparing in the use of strong drink, and it is rare to see one of them intoxicated. They do not sit down to tea as a special meal, nor do they make it so strong as we do, or add sugar or cream to it, but they have it at hand, and offer it to visitors, all day long. The ordinary name of the plant is *ch'a*; but the leaf was first imported into England from Amoy in Fu-chien, where the dialectical pronunciation of the name is *t'ay*, which the Irishman still retains. The use of opium will be discussed in a separate article.

The next essential to food and drink in the economy of life is clothing, and for this China has abundant provision in its stores of silk, linen, and cotton. It was, no doubt, the original home of silk. From the 23d century B.C. and earlier, the care of the silkworm, and the spinning and weaving of its produce, have been the special work of woman. As it is the duty of the sovereign to turn over a few furrows in the spring to stimulate the people to their agricultural tasks, so his consort should perform an analogous ceremony with her silkworms and mulberry trees. The tree grows everywhere, and in all the provinces some silk is produced; but Kwang-tung, Sze-ch'wan, and Cheh-chiang furnish the best and the most. The manufactures of silk are not inferior or less brilliant than any that are produced in Europe, and nothing can exceed the embroidery of the Chinese. Indigenous to the country, also, are hemp and other fibrous plants, such as the *Bœhmeria nivea*, from which the grass cloth is made. The cotton plant, though not indigenous, appears to have been introduced from Khoten (Eastern Turkestan) in the 11th century, and is now found everywhere, but is cultivated most extensively in the great basin of the Chiang. The well known nankeen is named from Nanking, a centre for its manufacture. The Chinese cotton is inferior to the imported cloth in its finish, but is heavier and more durable. (For the flora of China, see Asia, vol. ii. p. 421.) Of woollen fabrics the production is not large; but we meet with felt caps, rugs of camel's hair, and furs of various kinds. As the houses have no fireplaces, people keep themselves warm in cold weather by increasing the number of garments which they wear. On the whole, China has more resources in itself for the comfortable support and clothing of its vast population than most other countries.

For building materials the Chinese use, like ourselves, timber, bricks, and stone; but in the south inexpensive houses are often made of a kind of concrete called 'sifted earth,' a compound of decomposed granite and lime, with the addition sometimes of a little oil, poured into a wooden framework, which is shifted till the walls have reached their intended height. Anciently, as we learn from the Shih King, the largest structures were raised in this way. The walls, if well protected by overhanging eaves and plaster against wet, are strong and durable. Granite and limestone are found in many places, and the largest rocks are ingeniously split and wrought into building blocks. The architecture of China is defective, however, in the grandeur and grace which mark that of some other countries; the best specimens of it are seen in the marble bridges and altars of Peking and in the Buddhistic buildings on the Hill of Longevity and other places in the neighbourhood. No one who has seen them can ever forget the gigantic figures of animals and the statues lining the road that leads to the tombs of seven of the Ming emperors, at a considerable distance north from the capital. In the country houses are seldom of more than one story. Even in the cities the public offices and large business establishments are not remarkable for their height, but for their depth, as you pass from one series of rooms to another, courts intervening. Rising conspicuously above the other buildings are the pawnbrokers' establishments, while the most substantial structures are the guild halls belonging to the various trades, or to the merchants congregating in them from the different provinces.

The most picturesque buildings are the pavilions and pagodas. Of the former the most striking is one in what has become famous by being miscalled the 'Summer Palace' at Peking, about 14 feet square and 20 feet high, made of pure copper. The pagodas are Buddhistic structures, borrowed from the topes of India, where they were built at first, as depositories for the relics of Buddha and distinguished Arhats. In China they have taken a peculiar form, and are supposed to exercise mysterious geomantic influences. They are the most remarkable objects in the landscapes of the country, and there are few cities which cannot boast of one or more, always of an uneven number of stories. The most celebrated of them, the Porcelain Tower of Nanking, is now a thing of the past, having been blown up by the iconoclastic T'ai-p'ings in 1856. It was of an octagonal form, and was intended to be of thirteen stories, rising to a height of 329 feet; but only nine stories were completed, the building of which took nineteen years (1411-30). It was built massively of brick, and faced with slabs of glazed porcelain—green, red, yellow, and white; with lamps hanging outside from the projections of the different stories—one of the architectural wonders of the world.



Temple of the Goddess Ma-Tsu-p'o, Ningpo. (From 'The Middle Kingdom,' by S. W. Williams, LL.D.)

In the cities, and studding the country also, are many P'ái-laus or 'honorary portals,' which often carried the writer's thoughts to the old Temple Bar, though not of so substantial a construction as it was. They are tokens of imperial favor, erected in honor of distinguished persons, and many of them signalizing the virtue of widows who steadfastly refused to be married a second time.

The streets of the cities, especially in the south, are not wider than so many lanes, and the streams of people hurrying through them give the stranger an idea that they are more populous than they really are; though against this hasty assumption must be set the rarity of the appearance of women in them. They are paved with slabs of stone, but badly drained, and the heat and stench render a promenade through them anything but agreeable. Most of them have high-sounding names, such as 'The Street of Benevolence and Righteousness.' As in the old Roman cities, tradesmen of the same pursuits are found very much together in the same street. The streets are wider in the northern cities, till we arrive at Peking, where the wide ways of the Manchu portion combine with the imposing walls and their lofty towers to make the visitor think for a time that he has arrived at the grandest city of the world.

When you enter the house of a well-to-do family, you find the furniture sufficient, though somewhat scanty and not luxurious. The floor may be covered with matting, but not with a carpet or rugs. The tables and straight-backed chairs are of a dark, heavy wood, resembling ebony. A few pictures, not works of art, are hung on the walls, along with scrolls of fine writing, expressing moral sentiments or historical and topographical references, while some jars and other specimens of fine porcelain are put down here and there. There may be a couch or two made of bamboo and rattan, and stools of the same materials. The bamboo, that queen of the *Arundinaceæ*, deserves especial mention. A clump of bamboos adds a graceful charm to the scenery, and there seems to be no end to the uses which the plant serves. The schoolmaster employs it for his ferule, and the mandarin or magistrate for his most common instrument of punishment. The writing-paper is made from it. Its young shoots are used for food and for comfits and pickles. Its stems, according to their size, are employed for pencil handles, for canes, and for poles. Fans, cages, baskets, and fish reels are all constructed with it. Its roots are carved into grotesque figures, and fashioned into blocks of a peculiar shape to be used in divination. China would not be China without the bamboo.

The country is too thickly peopled and well cultivated to harbor many wild and dangerous animals, though one occasionally hears of a tiger that has ventured from the forest and been killed or captured. The lion was never a denizen of China, and is only to be seen rampant in stone in front of temples. The rhinoceros, elephant, and tapir are said still to exist in the forests and swamps of Yun-nan; but the supply of elephants at Peking for the carriage of the emperor, when he proceeds to the great sacrificial altars, has been decreasing for several reigns. Both the brown and black bear are met with, and several varieties of the deer family. The musk-deer is greatly valued. Among the more domestic quadrupeds, the breed of horses and cattle is dwarfish, and no attempts seem to be made to improve them. The ass is a more lively animal in the north than with us, and receives more attention. About Peking one is struck by many beautiful specimens of the mule. Princes are seen riding on mules, or drawn by them in elegant litters, while their attendants accompany them on horseback. The camel is only seen in the north. One of the first things that strikes a stranger in the capital is the troops of the shaggy animal lying or feeding about the walls, with their Mongol keepers, looking as uncouth as their charge.

The birds of prey are many. Mines, crows, and magpies abound. The last are 'sacred birds,' which it is not safe for the traveler to shoot. The people are fond of song-birds, especially the lark, the thrush, and the canary. The song of the nightingale is familiar. The smaller birds are not so afraid of man as with us. Buddhism, with which life is sacred, has done much to secure for birds, both with old and young, immunity from molestation and death. The lovely gold and silver pheasants are well known, and also the Yüan-yang (*Anas galericulata*), or mandarin duck, the emblem to the Chinese of conjugal fidelity.

The people are fond of flowers, and make excellent gardeners. You look in vain, however, in the gardens of the wealthy for the gay parterres which so please the eye in England. They cultivate their favorites mostly in pots; and the 'willow plate pattern,' with its arbors, bridges, and ponds, glowing often with the large and brilliant flowers of the nelumbium, supplies a good picture of a Chinese garden of a superior order.

While the Chinese have, as we have seen, done justice to most of the natural capabilities of their country, they have greatly failed in developing its mineral resources. The skill which their lapidaries display in cutting crystal and other quartzose minerals is well known, and their work in jade, which they so highly prize, is very fine. But a mineral more valuable than any other has been comparatively neglected. The coal-fields of China are enormous—more than twenty times the extent of those of Great Britain; but up to this time the majority of them can hardly be said to have been more than scratched. Immense quantities of iron ore, moreover, must have been extracted from the earth during the millenniums of its history, but a much greater amount is still untouched. Copper, lead, tin, silver, and gold are known to exist in many places, but little has been done to make the stores of them available. More attention has been directed to their mines since the government and companies began to have steamers of their own, and a scheme has been approved by the government for working the gold-mines in the valley of the Amoor river. The government has become conscious of its mineral wealth, and there is no calculating the resources to which it may attain.

A gold and silver currency is one of the first things which it has to provide. Thus far the only currency has been the copper cash, cumbrous and often debased, varying in its relative value in every district, and the source of endless trouble to the traveler. Even foreign silver coins are treated as bullion, and taken by weight. What is called 'sycee silver' is made from them. After they have been defaced and broken to pieces they are melted and cast into ingots of different sizes called 'shoes.' The comfort of the housekeeper, as well as of the traveler, is interfered with by the necessity of keeping small fine scales or steelyards to weigh every outlay and receipt. Paper money is indeed in circulation, but the banking system exists as yet only in a rudimentary condition.

Another want in China is that of good roads and comfortable conveyances. The necessity for good roads first presented itself to Shih Hwang Ti (214 B.C.), who, after he had extended the empire to nearly its present limits, ordered the preparation of them seven years before he commenced the building of the Great Wall; and it has been said that there are now 2,000 roads in China; but according to the reports of travelers in the present century, the good roads among them are very few. The government couriers perform their journeys on horseback. Where communication by water is abundant the want of roads is not so much felt; but in their absence in times of scarcity it is a most difficult thing to convey supplies to starving populations, as in the famine which prevailed in Shan-hsi and other northern provinces a few years ago. It is owing, doubtless, to the want of roads that the wheelbarrow is so much used as the chief vehicle of communication and commerce from the Chiang northward. The writer once had an experience of this, when, along with a companion, he was conveyed 250 miles on one of those 'easy wagons light' in about eight days. Slow as the journey was, the fatigue was much less than if they had been jolted over the same distance in a springless mule cart in half the time. Even at Peking roads once paved with marble slabs have been allowed to fall into such a state of dilapidation as to be full of discomfort and danger; and the route and conveyances from the capital to T'ien-tsin, its port, are disgraceful to the government.

Social Habits. The dress of the poor is very much alike in both sexes; and though it is regulated for all classes by sumptuary laws, it is varied among the wealthy by the richness of the materials and the various ornamentation. The most striking thing in the appearance of the men to a foreigner is the queue or plaited tail, from the hair of the crown, all the rest of the head being shaved. This was not the old fashion of doing up the hair, but was enforced on the Chinese by the Manchus in 1627, when they had commenced the conquest of the empire. Inscriptions on stone tablets in old temples in Japan, erected by refugees of the 17th century, mention this degrading requirement as one of the reasons why they had fled from their country. All dislike to the custom, however, has now disappeared. A foreigner is surprised in the same way by the small feet of the more respectable women. These were not enforced upon them by the Manchus, whose women allow their feet to grow to the natural size; it was a very ancient practice in the country, though [illegible] sixth century. The distortion is produced by bandaging the feet in early years, so as to prevent their further growth. The very poor and servants are

Feet of Chinese [illegible] a cast in Trinity Col- [illegible] not subjected to this torture, but such is the force of fashion that we have known humble girls of twelve or thirteen vainly try to reduce the size of their feet, thinking thereby to make themselves more attractive.

The separation of the sexes until marriage has been a feature of the social life from the earliest times. In the old feudal period, 'at the age of seven, boys and girls of the same family did not occupy the same mat, nor eat together, and at the age of ten a girl ceased to appear outside the women's apartments. Her governess taught her the arts of pleasing speech and manners, to be docile and obedient, to handle the hempen fibres, to deal with the cocoons, to weave silks and form fillets, to learn all woman's work, how to furnish garments, to watch the sacrifices, to supply the liquors and sauces, to fill the stands and dishes with pickles and brine, and to assist in setting forth the appurtenances for the ceremonies. At fifteen she assumed the hairpin as a token that she had arrived at woman's estate; at twenty she was married, or if there were occasion for the delay, at twenty-three.' We read nothing of any literary training for the daughters then, nor is there any now, though Chinese history is not without instances of learned women and distinguished authoresses. In the important event of marriage the parents exercise a supreme control; and this has given rise to a class of match makers or go-betweens, who are consulted by the parents, make inquiries, and by an examination of the horoscopes of the parties and other methods of their profession determine the question of the mutual suitability of the match. When a marriage has been agreed upon, it is carried through with a great variety of ceremonies, the parties most concerned being supposed never to have previously seen each other. In the majority of cases the husband and wife thus brought together seem to take to each other very well. Notwithstanding its defects and differences from our ideal, its result seems to be a fair amount of peace and happiness. When the wife becomes a mother she is treated as a sort of divinity in the household. There is but one proper wife ((*chang-ch'i*) in the family, but there is no law against a man's having secondary wives or concubines, and such connections are common wherever the means of the family are sufficient for their support. Many of the greatest names in the nation's history are stained with this practice, and the evils of it have been and are very great. There are seven legal grounds for divorcing a wife: Disobedience to her husband's parents; not giving birth to a son; dissolute conduct; jealousy (of her husband's attentions, *i. e.*, to the other inmates of his harem); talkativeness; thieving; and leprosy. These grounds, however, may be nullified by the three considerations: If her parents be dead; if she have passed with her husband through the years of mourning for his parents; and if he have become rich from being poor. In many cases the betrothment of children is made at an early age, leading often to [illegible] melancholy issues.

The charge of infanticide has long been brought against the family life in China, the victims in the vast majority of instances being the female children. That it is [illegible] by this cause, though not to the extent that has often been alleged, cannot be denied. It is among the very poor that the barbarity is chiefly perpetrated, and their poverty is the reason of it. From the ancestral worship which prevails among the people, the desire for male children is greater in China than perhaps in any other country. In one case the wife of a professing Christian asked the writer whether her husband might not be allowed, like any other person, to bring a concubine to the house, as children were denied to herself, and she would bring up any boy that was born to him on her knees as her own child. Public opinion is certainly against the crime of infanticide; the government is to blame in that it does not address itself to punish the deed [illegible] it is not [illegible] hospitals and asylums for the same are to be found in most of the large towns, but their [illegible] management are not satisfactory.

The complexion of the Chinese [illegible] yellow, is, as they say themselves, [illegible]. The same coarse black hair and apparently oblique eyes, with high cheekbones and roundish face, belong to them all from the Great Wall to the island of Hâinan. They are stout and muscular as compared with other eastern peoples, temperate [illegible]. They are addicted [illegible] generally held to be given also to mendacity and [illegible]. Many of them are so, and when is the country where there are not many such? The longer one lives among them, however, the better he likes them and the better he thinks of them.

They bury their dead in graves which are built round in the form of a horseshoe, and often with much display and at great expense. The mourning rites are tedious, and embrace a variety of sacrifices and other observances. No subject occupies so large a portion of the classic or ritual observances.

There is no weekly day of worship and rest like our Sunday. At the New Year the government offices are shut for about a month. New Year's Day is the one universal holiday, and at this time shops are closed for several days. The whole nation seems to be dissolved in festivity and joy. The people dress in their best; the temples are visited; gambling tables are surrounded by crowds; the noise of fireworks or 'crackers' is incessant. Throughout the year every month has its festivals, of which the most general are that of 'Lanterns' on the full moon of the first month; of the 'Tombs,' later on in the spring; of 'Dragon Boats,' in the fifth month; and of 'All Souls,' in the seventh month, for the benefit of departed relatives and hungry ghosts in the world of spirits. Theatrical representations are immensely popular. 'Strolling companies' can easily be hired; with the bamboo and matting, sheds, often very large, can be readily erected for the exhibition. Individual actors become celebrated as with us, and their services are well remunerated. Females do not appear on the stage. Their parts are performed by boys got up for the purpose.

History. The chronology of China is measured not by centuries, but by sexagenaries, the first cycle being made to commence with the sixtieth year of Hwang Ti in 2637 B.C. But this is merely a conventional arrangement. There were Chinese in China before Hwang Ti, and the cycle names for the years prior to 827 B.C. cannot be fully relied on. The documents of the Shû King begin with the reigns of Yâo and Shun (2356-2206 B.C.); and from various intimations in that work we are brought to conclude that the nation then consisted of a collection of tribes or clans of the same race, ruled by a sovereign nominated by his predecessor, and approved by the people as the worthiest man to reign over them.

With Yü, the successor of Shun, and the hero of Yâo's deluge, to which we have already made reference, there came a change in the principle of succession to the throne. As it is expressed, he 'familied the kingdom.' Then commenced the Feudal State, which lasted under three dynasties (Hsiâ, 2205-1767 B.C.; Shang, or Yin, 1766-1123 B.C., and Châu, 1122-255 B.C.) for a period of nearly two thousand years. The feudal system of China was very similar to that which prevailed in Europe during what we call the middle ages. At a grand *durbar* held by Yü after his accession there were, it is said, ten thousand princes present with their jade symbols of rank. But the feudal states were constantly being absorbed by one another. On the rise of the Shang dynasty they were only somewhat over three thousand, which had decreased to thirteen hundred when King Wû established the sovereignty of the Châu. In 403 B.C. we find only seven great states, all sooner or later claiming to be 'the kingdom,' and contending for the supremacy, till Ts'in (Ch'in) put down all the others, and in 221 B.C. its king assumed the title of Hwang Ti, or emperor, and determined that there should be no more feudal principalities, and that, as there is but one sun in the sky, there should be but one ruler in the nation.

From that year dates the imperial form of the Chinese government, which has thus existed for more than 2000 years. The changes of dynasty have been many, two or more sometimes ruling together, each having but a nominal supremacy over the whole nation. The greater dynasties have been those of Han (206 B.C.–221 A.D.), T'ang (618-905), Sung (960-1278), Yuan (the Mongol, 1280-1367), the Ming (1368-1643), and the Ch'ing (Manchu Tartar, 1643 to the present date.)

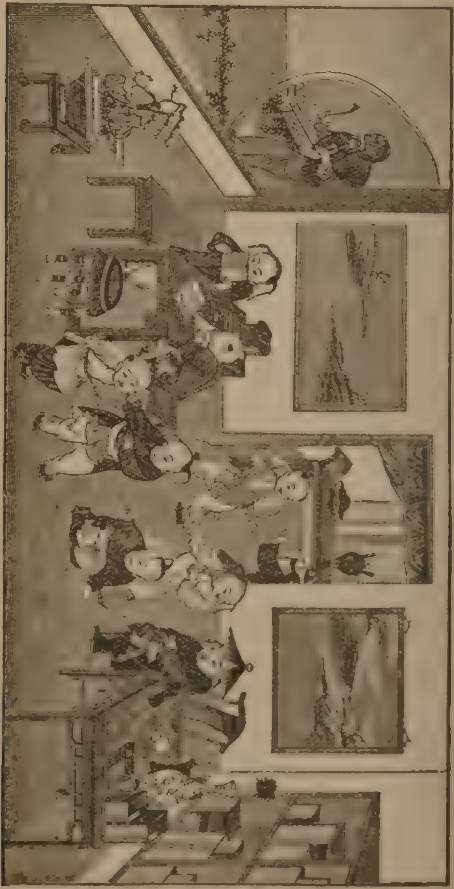
The long and persistent existence of the Chinese nation has been owing partly to its geographical position keeping it apart from other great nations, and partly to its educational culture and training. Where the race came from, at first, seems to be beyond the footsteps of history. The Chinese were not the earliest inhabitants of the country. They made their way from the north and west to China proper, pushing before them the older inhabitants, exterminating them or absorbing them, or leaving portions of them within their own ever enlarging borders, as wrecks of tribes still subsist.

ing here and there, and apparently moldering to extinction. From the first appearance of the Chinese we find among them written characters (see the next article), and certain elements of intellectual and moral culture and religious beliefs. (The connection of Chinese culture with that of ancient Babylonia has been suggested, but not proved.)

The Ruler and the Sage confront us in the earliest records of the nation; the Ruler to govern the people, and the Sage or Man of Intelligence to assist and advise him, and spread abroad among them the lessons of truth and duty. It is said in a document of the 18th century B.C., 'Heaven gives birth to the people with such desires that without a Ruler they will fall into all disorders, and heaven again gives birth to the Man of Intelligence to regulate them.' Thus the sovereign and the sage are both the ordinances of heaven; and it has been the rule in the various stages of the nation's history that officers of the government should possess whatever educational culture its institutions could supply. The same written character (shih) serves to designate both a scholar and an officer, and of the 'four classes of the people, scholars or officers, agriculturists, mechanics, and merchants' the first has always been held to be 'the head.' Even in the feudal times the system of examinations for the selection of the officials existed in a rudimentary state, though it was not till our seventh century that it began to assume its present form, open to all, excepting 'monks, play-actors, and menial servants.'

This competitive system, as now existing with all the necessary machinery, is organized in three principal gradations—the provincial, the metropolitan, and the palace examinations. The students of each province who have attained at the district examinations to the style of Hsiu Ts'ai, or 'men of talent,' assemble at the provincial capital, where as a rule every third year special examiners from Peking conduct the examination in the degree of Chü (Kü) jăn, or 'men for promotion,' which perhaps three in a thousand of them may obtain, and which entitles them to some minor appointments. To take the third degree of Ts'in shih, or 'men to be presented to the emperor,' the successful Chü jăn from all the provinces must proceed to the metropolis, perhaps about six thousand in all, and there, also as a rule triennially, pass a test examination, the successful candidates at which then go in for the palace examination, conducted within the precincts of the imperial palace itself; after which the lists are published in three classes, the first being a tripos of the three best men, who become for the time the heroes of the day. They and a proportion of the others are admitted to the ranks of the members of the Han-lin, the 'Forest of Pencils,' or 'Grand Academy of Literature.' The remainder receive appointments in the provinces or at the capital, according as vacancies occur. Such is an outline, as large as our space will allow, of the competitive system of examinations by which the government of China seeks to secure the ablest men of the empire for its service. The examinations are testing and fairly conducted. The subjects are taken from the literature of the country itself. There are already indications not a few that the system will undergo the modifications made necessary by the new relations with other countries which have arisen in our own time; mathematics became a subject of examination in 1888. The system has served to impress the people with the value of education; but it must not be supposed that as a whole they are highly educated. Everywhere, indeed, there are primary schools, not government institutions, but supported by the people themselves. A smattering of education is very widely diffused; but apart from the official classes those who can read freely or write readily are few.

The three religions of China are Confucianism, Taoism and Buddhism. [illegible] represent the first, not so much as a religion, but as a [illegible] in its teachings a recognition of the religion which prevailed in China from the most ancient times—the belief of a Supreme Power, expressed at first by the term Heaven, which was afterwards designated also by the personal name [illegible] 'the Supreme Ruler.' The state worship of Heaven [illegible] is confined to the sovereign, as the father and priest of the people. The will of [illegible] and as such as a sovereign [illegible] to it, he has forfeited his title to the throne, and thus it is that the changes of dynasty are always referred to as 'the will of Heaven', and the sovereign professes to be such 'by the grace of God.' Associated with the worship of Heaven or God there was the worship of heaven and earth and the powers of nature, but only



A Chinese School when the master has gone out (Peking). (From a Chinese Picture.)

as subordinate to God and fulfilling His will for the good of men, and also of distinguished men as having by their discoveries and achievements defended, benefited and blessed the people of their own and future times. There was also common to their sovereign and all the people the worship of their ancestors. This last was and is considered as an expression of filial piety, the perpetuation of 'the duty which every one owes to his parents—the first and chief of all virtues.' On this Confucius laid great stress, endeavoring to develop all other virtues from it. His great object may be said to have been the inculcation of duty, setting forth with wondrous iteration the character of his superior or ideal man. Several times he enunciated 'the golden rule' in a negative form, 'What ye would not that men should do to you, do not do to them.' Tâoism derives its name from the treatise of Lî Urh, commonly called Lâo-tsze, a contemporary of Confucius, called 'The Tâo or Way and its Characteristics.' The Way is the quiet, passionless discharge of all which our nature and relations prompt or require us to do, without striving or crying, and the method of maintaining and preserving life. 'Heaven' in this 'Way' is not a ruler or legislator as in Confucianism, but only a pattern. The system was older than Lâo-tsze, and indigenous in China, but associated with many superstitions, and after the entrance of Buddhism into China it adopted many of its peculiarities. The recognized head of Tâoism has his seat on the Lung-hû mountain in Chian-hsî. Lâo-tsze has the merit of having formulated the grand principle that good will overcome evil, and should be returned for it. For Buddhism, which was introduced, or rather invited to China in our first century, see the article BUDDHISM.

There is one priesthood in Confucianism, but Buddhism has its monks and nuns, and Tâoism its monks. The government, while not interfering with the internal organization of either of these systems, has established a scheme of gradations of rank and authority in order that it may have the control of them in its own hands. It would no doubt recognize Christianity in the same way, if the different missions could possibly be amalgamated, and would unitedly try to adapt themselves to the bed of Procrustes which it would prepare for them in the various departments and districts. This is not the place in which to speak of the comparative number of the adherents of the 'three religions' in China. To claim a majority for those of any one of them is very absurd. As a matter of fact, Confucianism represents the intelligence and morality of China, Tâoism its superstitions, and Buddhism its ritualism and idolatry, while yet it acknowledges no God.

The government of the empire (omitting the regulation of the imperial court and family, or the special Manchû department) is conducted from the capital, supervising, directing, controlling the different provincial administrations, and exercising the power of removing from his post any official whose conduct may be irregular or considered dangerous to the state.

There is the Grand Cabinet, the privy-council of the emperor, in whose presence it meets daily to transact the business of the state, between the hours of four and six A.M.! Its members are few, and hold other substantive offices. There is also the Grand Secretariat, formerly the supreme council, but under the present dynasty very much superseded by the cabinet. It consists of four grand and two assistant-grand secretaries, three of them Manchûs and three Chinese.

The business on which the cabinet deliberates comes before it from the six boards of Civil Office, of Revenue, of Ceremonies (including all matters pertaining to religion), of War, of Punishment, and of Works. Each board has two presidents and four vice-presidents, three of them again Manchûs and three Chinese.

In 1861 the changed relations between the empire and foreign nations led to the formation of what we may call a seventh board, styled the 'Yâ-mân or court of Foreign Affairs.' There is also another important department which should be mentioned,—the Censorate, members of which exercise a supervision over the boards and distributed through the provinces, have it as their duty to memorialize the emperor on all subjects connected with the welfare of the people and the conduct of the government.

In the administration of the provinces, a governor general and governor are for the most part associated as colleagues, though in Chih-li, Kan-su, and Sze-ch'wan there is only the governor general, and in Shan-hsî, Shan-tung, and Ho-nan only the governor. Below these two functionaries there are the lieutenant governor (commonly called the treasurer), the provincial judge, the salt comptroller, and the grain intendant. The provinces are further divided for the purposes of administration into fû, or prefectures (amounting in all the provinces to 18[illegible]), chû or departments (in all, 58 independent of the fû, within which they are comprehended, and 155 subject to it), and hsiens or districts, subject to the fû (in all 1,288). There are also four fu occupied principally by the aboriginal peoples, twenty-eight chân and four hsien. The rank of the different officials in these provinces is indicated by a knob or button on the top of their caps. In the two highest it is made of red coral, in the third it is clear blue, in the fourth, of lapis-lazuli; in the fifth, of crystal, in the sixth, of an opaque white stone, and in the three lowest it is yellow, of gold or gilt. They also wear insignia or badges embroidered on a square patch, in the front or back of their robes, representing birds on the civilians and animals on the military officers.

As regards the revenue of the empire we need more information than we possess at present. Each province is required to support itself and to furnish a certain surplusage for the imperial government, but both the provinces and the court are constantly finding their income insufficient. Of the income of the several provinces for local purposes we cannot speak, but we take the following estimate of the imperial revenue from a series of carefully prepared articles contributed to the China Mail of Hong-kong in 1885:

		Taels.
1.	Land-tax portion, payable in silver..	20,000,000
2.	" rice tribute to Peking at T.1.50 per picul, and rice levy in provinces or money commutation..........	7,000,000
3	Salt Gabelle, and *likin* or transit duty on salt....	9,500,000
4.	Maritime customs under foreign supervision	13,000,000
5.	Native customs, maritime and inland, and first inland levy on foreign opium...	5,000,000
6.	*Likin* on miscellaneous goods and opium, both foreign and native..........	9,500,000
	Total..........	64,000,000

The tael at present has fallen to little more or even less than five shillings, but however we stretch its value we do not obtain the amount of £20,000,000; surely a very small imperial revenue for so great an empire with so vast a population. It has been increased at times by sales of office and by forced contributions, such as were once in England mistermed benevolences, both dangerous expedients; but the former was put a stop to by an edict in 1879. China had no foreign debt till 1874; in 1888 the foreign loans had amounted to about $5,000,000.

The imperial army proper consists of Manchûs, Mongols, and the descendants of Chinese who revolted from the Ming dynasty and joined the Manchus on their invasion of the empire, the first defection taking place in 1621. These are divided each into eight corps with different colored banners, and as a whole are styled "The Eight Banners." Their headquarters are in Peking, and they are distributed in garrisons in most of the provinces, and also in Turkestan and I-li. Their number available for actual service amounts to nearly [illegible], of whom 100,000 are supposed to be reviewed by the emperor at Peking once a year. In addition to this there is the national army, distributed in more than one thousand camps throughout the provinces, nearly twice as numerous as the imperial, and called 'The Army of the Green Standard,' being in fact little more than a vast militia or gendarmerie. These forces may in times of emergency be added to considerably by patriotic gentlemen calling out bands of 'braves,' effective enough to cope with insurgents, but all unfit to encounter the disciplined forces of any foreign power. Of this character at first were the troops of the T'ai-p'ing rebellion, which, till its suppression in 1867, for about twenty years proved a match for the imperial and national forces, and threatened the overthrow of the Manchu dynasty. See TAIPINGS and GORDON (CHARLES GEORGE). The navy is divided into a northern and a southern fleet—the former comprising four turret-ships, seven armored cruisers, and twenty-three gunboats, besides torpedo boats; the latter seven cruisers, sixteen gunboats (some of them armored), four floating batteries, and torpedo boats. Most of the armored ships have been built in Germany or in England, but several of the most powerful have been built in China.

Intercourse with Western Nations and Commerce.—It was not till after the Cape of Good Hope was doubled and the passage to India discovered by Vasco da Gama in 1497, that intercourse between any of the European nations and China was possible by sea. It was in 1516 that the Portuguese first made their appearance at Canton; and they were followed at intervals of time by the Spaniards, the Dutch, and the English in 1635. The Chinese received none of them cordially; and their dislike of them was increased by their mutual jealousies and collisions with one another. The Manchû sovereignty of the empire, moreover, was then in the throes of its birth, and its rulers were the more disposed to assert their own superiority to all other potentates. They would not acknowledge them as their equals, but only as their vassals. They felt the power of the foreigners whenever they made an attempt to restrict their operations by force, and began to fear them. As they became aware of their conquests in the Philippines, Java, and India, they would gladly have prohibited their approach to their territories altogether. In the meantime trade gradually increased, and there grew up the importation of opium (see OPIUM TRAFFIC) from India, and the wonderful eagerness of multitudes to purchase and smoke it. Before 1767 the import rarely exceeded 200 chests, but that year it amounted to 1,000. In 1792 the British government wisely sent an embassy under Lord Macartney to Peking with presents to the emperor, to place the relations between the two countries on a secure and proper footing; but though the ambassador and members of his suite were courteously treated, the main objects were not accomplished. In 1800 an imperial edict expressly prohibited the importation of opium, and threatened all Chinese who smoked it with condign punishment. It had been before a smuggling traffic, and henceforth there could be no doubt of its real character. Still it went on, and increased from year to year. A second embassy from Great Britain in 1816 was dismissed from Peking suddenly and contumeliously because the ambassador would not perform the ceremony of San kwei chiu k'au (the repeated prostrations), and thereby acknowledge his own sovereign to be but a vassal of the empire.

So things went on till the charter of the East India Company expired in 1834, and the head of its factory was superseded by a representative of the sovereign of Great Britain, who could not conduct his intercourse with the Hong merchants as the others had done. The two nations were brought definitely face to face. On the one side was a restless force, determined to prosecute its enterprise for the enlargement of its trade, and the conduct of it as with an equal nation; on the other side was the old empire seeming to be unconscious of its weakness, determined not to acknowledge the claim of equality, and confident of its power to suppress the import of opium. The government of China made its grand and final effort in 1839, and in the spring of that year the famous Lin Tsêh-hsü was appointed to the governor-generalship of the Kwang provinces, and to bring the barbarians to reason. Out of his measures came our first war, which was declared by Great Britain against China in 1840. There could be no doubt as to the result in so unequal a contest; and we hurry to its close at Nanking, the old capital of the empire, where a treaty of peace was signed 1842, August 29, on board Her Majesty's ship Cornwallis. The principal articles were that the island of Hong-kong should be ceded to Great Britain, that the ports of Canton, Amoy, and Fu-chau (in Fu-chien), Ning-po (in Che-chiang), and Shang-hai (in Chiang-sû) should be opened to British merchants; and that thereafter official correspondence should be conducted on terms of equality according to the standing of the parties. Nothing was said in the treaty on the subject of opium, the smuggling traffic in which went on as before.

Before fifteen years had passed away, because of troubles at Canton, not all creditable to Great Britain, and the obstinacy of the governor-general Yeh Ming-shên in refusing to meet Sir John Bowring, it was thought necessary by the British government that war should be commenced against China again. In this undertaking France joined as our ally. Canton was taken 1857, December 29, when Yeh was captured and sent a prisoner to Calcutta. Canton being now in the possession of the allies, arrangements were made for its government by a joint commission; and in 1858, February, the allied plenipotentiaries, accompanied by the envoys of the United States and Russia, as non-combatants, proceeded to the north, to lay their demands before the court at Peking. There was not so much fighting as had been feared in 1858; and on June 26 a second treaty was concluded at Tien-tsin, [illegible] confirming the former, but with many important additional stipulations, the most important of which were that the sovereigns of Great Britain and China might, if they saw fit, appoint ambassadors, ministers, or other diplomatic agents to their respective courts; and that the British representative should not be required to perform any ceremony derogatory to him as representing the sovereign of an independent nation on an equality with China. Other stipulations provided for the protection of Christian missionaries and their converts; for liberty for British subjects to travel, for their pleasure or for purposes of trade, under passports, into all parts of the interior of the country; for the opening of five additional ports for commerce—Niu-chwang (in Shing-king, the chief province of Manchuria), Tang-chau (with port of Che-foo, in Shan-tung), Tai-wan (Formosa), several ports of Ch'ao-chau (with port of Swa-tau, in Kwang-tung), and Ch'iung (Kiung-chau, in Hai-nan); and for authority for merchant ships to trade on the Yang-tsze river, ports on which would be opened when rebellion should have been put down and peace and order restored. (The river was not opened to steamer traffic till 1888.) Treaties on the same lines were concluded also with the United States, France, and Russia. A revision of the tariff regulations of 1842 was to take place subsequently in the year at Shang-hai. This was done in October, and then opium was entered among the legitimate articles of import, and the arrangement confirmed that the government should employ a foreign official in the collection of all maritime duties. It might seem that these treaties secured everything which foreign nations could require, and that the humiliation of the Chinese government was complete. But they were nearly wrecked by one concluding stipulation in all of them but that of the United States, that the ratifications of them should be exchanged at Peking within a year. The emperor and his advisers, when the pressure of the force at Tien-tsin was removed, could not bear the thought of the embassies entering the sacred capital, and foolishly cast about to escape from the condition. The forts at Ta-ku, guarding the entrance to the Pei-ho, and the approach to Tien-tsin and thence to Peking, were rebuilt and strongly fortified. When the English, French, and American ministers returned to Shang-hai with the ratified treaties in 1859, the Chinese commissioners who had signed them at Tien-tsin were awaiting them, and urged that the ratifications should be exchanged there. The French and English ministers then insisted on proceeding to Peking as the place nominated for the exchange. But when they arrived at the mouth of the river, with the gunboats under their command, they were unable to force the defences. A severe engagement ensued, and the allied forces sustained a repulse with heavy loss. It was the one victory gained by the Chinese. The British and French governments took immediate action. A third expedition under the same plenipotentiaries as before, with a force of nearly 20,000 men, was at the same place in little more than a year. The forts were taken on August 21, and on the 25th the plenipotentiaries were again established in Tien-tsin. We can only refer to their march in September on Peking, with all its exciting details. The emperor (Hsien-fung) fled to Jeh-ho in the north of Chih-li, the imperial summer retreat; and his brother, Prince Kung, whose name is well known, came to the front in the management of affairs. On October 13 he surrendered the north-east gate of the city; and on the 24th the treaties were exchanged, and an additional convention signed by which, of course, an additional indemnity was exacted from the Chinese, and an arrangement made about the emigration of coolies, which had become a crying scandal, while a small piece of the continent of the empire, lying opposite to Hong-kong, was ceded to that colony. So it was that the attempt of China to keep itself aloof from the rest of the world came to an end, and a new era in the history of the empire was initiated.

Hsien-fung died at Jeh-ho in 1861, August, leaving the empire to his young son only six years old. A cabal at Jeh-ho tried to keep the boy in their possession, but his uncle, Prince Kung, succeeded in getting him to Peking; and along with the young emperor's mother and the empress-dowager (by whom Hsien-fung had had no child), loyally and successfully administered a regency in accordance with the new conditions of the government. The style of the reign was T'ung-chih, or 'Government in Union;' and in 1873, February 23, the emperor announced publicly, and specially to the foreign ministers, that he had taken the government into his own hands. This brought up the question of an audience, but, after a good deal of protocolling and negotiation, it was finally settled, on June 29, by the emperor receiving all the ministers then in Peking without the ceremony of prostration. His reign did not last long, for he died 1875, January. As he left no son, and had designated no successor, the members of the imperial house, according to the rules in such a case, appointed as his successor Tsai'-tien, the son of Prince Shun, a younger brother of Prince Kung. The new sovereign was a child of four years old, and began to reign under the style of Kwang Hsü, or 'The Illustrious Succession.' He assumed the government 1887, March.

Since the ratification of the treaties of T'ien-tsin, the ports on the Great Chiang, the opening of which was promised in them, have, with the exception of Nan king, been opened namely, Han k'aû (in Hû pei), Chiû-chiang (Kiû-kiang, in Chiang-hsi), and Chin-chiang (Kin kang, in Chiang sû). In addition to these, I chang (in Hû pei), and Wû hû (in An-hui), also both on the Chiang, have been opened, with Wân-chau (in Cheh-chiang), and Pih-hâi (Pakhoi, in Kwang tung'g, through the convention at Che-foo in 1876, between Sir Thomas Wade and Li Hung-chang. By the same convention certain concessions regarding the opium traffic were also stipulated for by the Chinese commissioner, and agreed to after various delays, with some modifications not unfavorable to the Chinese, by the British government.

According to the returns of trade and trade reports of the Imperial Maritime Customs for the year 1887, the vessels entered and cleared at the various treaty ports were 28,381, of which 14,337 were British. There were also among them 6,402 vessels of foreign type, owned by Chinese, and sailing under the Chinese flag, and 1,996 Chinese junks sailing under special licenses issued by the superintendents of customs at Shang hai and Ning-po. The value of the whole trade, net foreign and net native imports and exports, was 261,172,073 taels. The revenue accruing from this immense trade (including import, export, and coast-trade duties, tonnage, and transit dues, and opium li-kin) was 20,541,997.402 taels, the average value of the tael during the year being 4s. 10¼d. (having fallen from 5s. 8⅙d. in 1882).

The import of opium was 73,877 piculs, as against 67,801 in 1886. 'But it would be a mistake to assume that the demand for foreign opium increased in 1887. . . . The taste for it is languishing, a preference being given to the opium produced in Manchuria and some provinces of China Proper.'

The greatest increase of imports in 1887 was in cotton yarn. 'The yarn from Bombay is gradually taking the place of that from Manchester, it being a better wearing article.' Of the two principal exports of tea and silk the quantities exported were rather less in 1887 than in 1886.

China has in the past been mainly a self-contained nation, but of late the Chinese have shown an increasing tendency to seek a livelihood abroad, especially in California, British Columbia, the Straits Settlements and Eastern Archipelago, and Australia. More than half the population of Singapore is Chinese; and in 1880 there were 206,000 Chinese in Java. In the Australian colonies there have never been more than 60,000. From 1855 to 1867 the immigration of Chinese into the United States varied from 3,000 to 7,000; from 1868 to 1881 it was usually between 10,000 and 20,000; in 1882 it was 33,614. But the imposition of prohibitory taxes on Chinese immigrants reduced this to 381 in 1883 and 17 in 1886. And in 1888 the immigration of Chinese workmen was absolutely forbidden for twenty one years, though merchants and students with means are permitted to travel or reside in the Union. British Columbia and some of the Australian colonies have also sought to restrict Chinese immigration by imposing a heavy poll tax on immigrant Chinese.

The government of the empire has in the meanwhile been on the whole eminently fortunate and successful. There is now peace within its borders, and in its dependent territories. From its hostilities with France about Annam it came forth with more credit than in its former collisions with western powers, and the complications that might have arisen between it and Britain from the extension of the latter's eastern empire over Upper Burmah, were wisely arrested by the concession to it on the part of Lord Rosebery. It has its legations at the courts of Great Britain, France, Germany, Russia, and the United States. The advice of the foreign ministers at its court has been of important service to it in threatening emergencies. The collection of its maritime duties under foreign superintendence has materially added to its revenue. It has wisely employed the services of foreigners in its army and arsenals. Machinery for cotton manufacture and paper making has been imported. Telegraphic communication has been established extensively, and in 1888 a railway 81 miles in length was opened from Tien-tsin to Tong-shan. The government has commenced the proper training of its troops. It has acquired a considerable and powerful navy. It has founded schools and other institutions for the education of its young men in the knowledge of other languages, and in the various applications of western science. It has shown much sympathy with the sufferings of its people under unavoidable calamity. The one element of dissatisfaction with the present condition of China is the increasing growth of the poppy in its own provinces, and the increasing consumption of opium among the people. To set against this there is the accelerating diffusion of Christianity; nor is there reason to anticipate any but a great and good future for the empire.

See J. B. du Halde, Description Géographique, etc., de la Chine et de la Tartarie Chinoise (4 vols. 4to, Paris, 1735); Histoire Générale de la Chine ou Annales de cet Empire, traduites du Tong-kien Kang-muh, par le feu Père Joseph Anne-Marie de Moyriac de Mailla (12 vols., 4to, Paris, 1776-85); Demetrius Boulger, History of China (3 vols., 8vo, Lond., 1881-84); China, a History of the Laws, Manners, and Customs of the People, by William John Henry Gray (2 vols., Lond., 1878); Sir John F. Davis, China: a General Description of That Empire and Its Inhabitants, etc. (2 vols., Lond., 1857); S. Wells Williams, LL.D., The Middle Kingdom: a Survey of the Geography, Government, etc., of the Chinese Empire and Its Inhabitants, revised edition (2 vols., Lond., 1883); Ferd. Freiherr von Richthofen, China, Ergebnisse eigener Reisen und darauf gegründeter Studien (Berlin, 1877-85); E. Simon, China: Religious, Political, and Social (Lond., 1887); W. F. Mayers, The Chinese Government (Shanghai, 1877); Rev. Dr W. A. P. Martin, The Chinese: Their Education, Philosophy, and Letters (Lond., 1881); Rev. Justus Doolittle, The Social Life of the Chinese (2 vols., Lond., 1866); Rev. Dr A. Williamson, Journeys in North China, Manchuria, and Eastern Mongolia, with some Account of Corea (2 vols., Lond., 1870); Rev. John Ross, The Manchus, or the Reigning Dynasty of China: Their Rise and Progress (Paisley, 1880); Rev. Dr J. Legge, The Chinese Classics (vols. i. to v., Hongkong; vols. vi. and ii., Oxford); China, Prof. R. Douglas (Lond., 1882); Chinese Sketches, H. A. Giles (Lond., 1876), and other works by the same author.

Chinese Language, Writing, and Literature.—The speech and the written composition of the Chinese differ more than those of any other people. The former addresses itself, like all other languages, to the mind through the ear; the latter speaks to the mind through the eye, not as words but as symbols of ideas. All Chinese literature might be understood and translated, though the student of it could not name a single character. The words and the names of the written characters are all monosyllabic, and are inconjugable and indeclinable, without inflection or change of any kind, and at the same time so versatile that there are few of them which may not perform the rôle indifferently, according to their position in a sentence, of most of what we call parts of speech. That the speech has never advanced to anything like agglutination even (see Philology), can be owing only to the early origin and cultivation of the written characters. These demand our chief attention.

The Chinese fathers spoke, of course, before they wrote; and when they had formed symbols to indicate their conceptions they naturally called them by the names which they were accustomed to give to the objects of their perceptions and to their mental ideas. The time when they began to form those symbols cannot be exactly determined. Everywhere throughout China we find altars to Ts'ang Chieh, where paper with writing on it, often picked up from the ground, is burned in acknowledgment of his service to mankind as the inventor of written characters. Some authorities say that he was a sovereign prior to Fû-hsî; others that he was a minister of Hwang Tî several centuries later. Fû-hsî's reign, according to the least unlikely of the chronological schemes, must be assigned to the 34th century B.C. We may safely say that the written characters of the Chinese existed, it may be in a rudimentary condition, more than 5,000 years ago.

These characters are divided into six classes, according to the principle regulating their formation: (1) Pictorial characters (Hsiang hsing), being originally rude pictures of objects; (2) indicative characters (Chih shih), intended by their form and the relation of their parts to suggest to the reader the idea in the mind of their makers; (3) composite characters (Hui i), made up of two or more characters, the meanings of which blend in the meaning of the compound; (4) inverted characters (Chwan chu), formed from others by the inversion of the whole, or of parts of them; (5) borrowed characters (Chia tsieh), used in other than their proper signification, and (6) phonetical characters (Hsieh shâng), of which one part has a phonetic use, and indicates, exactly or approximately, the name of the compound, and the other part the category of meaning which it conveys.

The first three classes may be called *origines scripturæ Sinicæ*, but do not comprehend 2,000 characters; the next two are unimportant.

The sixth class is beyond comparison the most numerous, and embraces well on to 40,000 of the 43,000 characters, or thereabouts, found in the K'ang-hsi dictionary of 1,04[illegible]. The third class is the most interesting, bringing us mind to mind abreast of their framers, and showing us their ideas of the things represented by the characters. For example, a wife (called *fû*, 婦) is denoted by *nü*, 女, 'a female,' and *ch'au*, 帚, 'a broom:' she was the woman that used the broom. And, again, a male child, (called *nan*, 男) is denoted by *t'ien*, 田, 'a field,' and *li*, 力, 'strength:' his birth was welcomed as new strength for the work of the field.

The phonetical characters arose from the impossibility of framing a sufficient number of characters on the other five principles of formation to serve the purpose of a written medium. A certain number of characters (which has varied from 554 to 214 employed in the dictionaries of the last and present dynasties), were set apart as 'ideograms' or 'mothers of meaning,' and a larger and more indefinite number were chosen, which in connection with them might express the name or sound of the compounds, and be called 'mothers of sound.' Their number altogether is large, but many are derivatives of others, and not a few of the ideograms themselves are among them. Dr Chalmers of Hong-kong published, in 1878, a Concise Chinese Dictionary, in which the phonetic constituents are reduced to 884. These, with the 214 ideograms, having been learned, 1,098 characters in all, the student has mastered the elements of all the Chinese characters. Pronunciation is constantly varying, and his reading will often be far from giving the present truth of the names of many characters; but a knowledge of these phonetic constituents does much to lighten the strain upon the memory in learning Chinese.

The monosyllabic utterances, however, available to name the 43,000 characters are few indeed. In Pekinese they are only 420. Even if there were as many as 1,000 different syllables in the language equally divided among the characters, more than forty meanings would belong to each. In the Syllabic Dictionary of the late Dr Williams, containing only 12,527 characters placed under 532 syllables, there are about 170 characters placed under the monosyllable *i*, or *yi*. To the eye there is no difficulty in distinguishing all these *i*'s; but to the ear such discrimination, if unassisted otherwise, is impossible. To assist it there is a system of tones, the number of which varies in different dialects. According to the tone in which the monosyllable is pronounced, its meaning is different, and this renders what we call a 'good ear' desirable in learning the speech of China. There are other devices by which the difficulty occasioned by the slender syllabary of Chinese speech is overcome, such as the combination of synonyms, and the multiplication of particles, not to be found in the dictionaries. As a consequence, while conciseness is a characteristic of good Chinese composition, the spoken language is verbose; *e.g.* the fable of the Fox and the Grapes, told in [illegible] English words, is rendered in good Chinese by [illegible] characters, while a version of it in [illegible] contains [illegible] words. Still the colloquial speech is not difficult of acquisition. The writer had often occasion to remark that the children of English families resident in China, who were not restricted from intercourse with the Chinese, spoke the colloquial more fluently and readily than the English which was spoken by their parents.

After the Buddhist missionaries came to China, and scholars got some acquaintance with the use of the Sanskrit alphabet, they began to devise a method of spelling so as to spell their characters, dividing each monosyllable into an initial and a final sound, and then joining two other characters together, one to give the initial, and the other, always in the same tone as the character thus spelled, to give its final sound. This method, though cumbrous, might have been of use to the student if the same characters had always been employed for the same initial and the same final sounds, as in Chalmers' Canton Dictionary. But every lexicographer adopted his own characters at his pleasure, *e.g.*, the character 理 (*li* = *l* + *i*) is spelled in one dictionary by 良 (*l-iang*) and 止 (*ch-ih*); in a second by 兩 (*l-iang*) and 耳 (*êrh*, anciently called *i*); and in a third by 良 (*l-iang*) and 以 (*i*). The K'ang-hsi lexicon, after reciting these three spellings, adds that the sound is the same as 里, which is the phonetic element, *li*. This spelling only distracts the student; the Chinese scholars failed to apprehend the nature of the alphabetic signs.

From the analysis of the characters which has been given, their inconjugable and indeclinable character, and their versatility such that one of them may perform the role of most of our 'parts of speech,' it is evident that the attempt to apply to them the categories and rules of grammar on the model of our Aryan languages must be very much 'love's labor lost,' yet composition with them has its own rules, which are not difficult to learn. As Dr. Marshman expressed it in his grammar of 1814, 'The whole of Chinese grammar depends on position.' Under the skilful application of this principle the Chinese characters weave the web of thought with the rapidity of engine-driven shuttles, and there has grown up an immense Chinese literature.

A paragraph may be allowed to what is called 'pidgin English,' a sort of *lingua franca* which grew up between Chinese and foreigners, for the purpose of intercourse in business. 'Pidgin' is a Chinese attempt to pronounce our word 'business,' and the materials of the lingo are nearly all English words. The idiom, on the other hand, is entirely that of colloquial Chinese. Foreigners get to master it in a short time, so as to transact important affairs of business. There is often a charm of quaintness about such conversations and one occasionally sees in his Chinese interlocutor the working of the mind which has been displayed in the formation of the third or composite class of characters. For instance a Chinese boy (all servants are called boys) once came to ask the writer to intercede for him with his master, who was treating him, he thought, unjustly. 'He one-time very bad man,' he said; 'he no hab topside pidgin,' meaning that his master had no religion, no dealing with the powers above. See C. G. Leland's 'Pidgin English Singsong' (1876).

How vast and varied the Chinese literature is may be seen from a very brief and imperfect analysis of the contents of the catalogue raisonné of the works collected by imperial order in the K'ien-lung reign in 1772 to be preserved in a great national library. The catalogue is arranged in four divisions under the name K'u, 'Arsenals' or 'Magazines': the first, in 44 chapters, containing works on the classics and commentaries on the study of them; the second, in 46 chapters, works of history; the third, in 103 chapters, works on philosophy and the arts, and the fourth, in 53 chapters, works of poetry and belles-lettres.

The classics are the canonical books and a few others on which an amount of commentary has been expended certainly not inferior either in voluminousness or in patient care to what has been put forth on our sacred Scriptures, and it still goes on without abatement. A collection of commentaries, by a multitude of scholars of the present dynasty, was published at Canton in 1829 in 1,400 chapters. The histories are those of China itself, and are divided into four classes according to the different methods of the authors. The first place is given to the 'Correct' and 'Authoritative,' or the 'Dynastic,' which now form a collection of twenty four different works. The writer's own copy of it, bound in English fashion, amounts to 64 thick volumes, imperial 8vo size. In general, each dynastic history contains an account of the several reigns, followed by treatises on chronology, rites, music, jurisprudence, food, and goods or political economy, state sacrifices, astronomy, the five elements, geography, and especially topography, and the literature. After these treatises we have a host of biographies of the most remarkable individuals of the dynasty, and the history concludes with an account of the foreign peoples with which there has been any intercourse. These notices of the dynastic histories only occupy two of the 46 chapters of the division. Among the subdivisions are three chapters on 'Books on the Constitution,' embracing such works as Ma Twan-lin's General Examination of Records and Scholars, said by Rémusat to be, 'a library in itself,' and the two continuations of it, each as voluminous as itself, and the Penal Code of the present dynasty, of which we have the translation by Sir G. T. Staunton, published in 1810.

The philosophy and arts division deals with the works of the class of the literati, both orthodox and heterodox, of writers on military affairs, on legislation, on agriculture, horticulture, and the mulberry tree, on medicine, on astronomy and mathematics, on divination, on painting, music, engraving, and other arts, on ink and inkstones, on tea and the tea plant, on articles of diet, on the works of several of the Roman Catholic missionaries, and concludes with works of Taoism and Buddhism. Five chapters are devoted to works on mythology and lighter subjects, not including, however, as we shall presently see, novels and romances.

The belles-lettres division has the general name of Tsi, 'Collections' or 'Compilations.' It comprehends the various classes of polite literature, poetry, and analytical or critical works. Chinese poetry has no epic, but it is rich in ballads, lyrical and descriptive pieces, rhythmical effusions and songs, eulogies and elegies, and monumental inscriptions. Its poets have been without number, and its poetesses not a few. One of the Confucian classics is The Book of Poetry.

Novels and romances, dramas, and books written in the colloquial style are not admitted into such grand catalogues as the above, but the literature is not without them. There is no more pleasant reading than some of their historical romances, such as the Expanded Narrative of the Period of the Three Kingdoms (168-265 A.D.), by a [illegible] written in our 13th century. Some of the best of them have been translated into European languages: The Fortunate Union, by Sir John Francis Davis, [illegible] under the superintendence of the present writer; Les Deux Cousines and Les Deux Jeunes Filles Lettrées by the late Stanislas Julien and others.

Great as the Chinese literature is, it would have been greater, especially in the earlier periods of it, but for the burning of the Confucian books by the founder of the Ts'in dynasty, and for the subsequent 'bibliothecal catastrophes' [illegible] the imperial library [illegible] century. Paper was made and employed for writing in the 1st century, and printing by means of wooden blocks [illegible] still prevailing [illegible]. An edition of all the classical books was so published in 932 A.D. The invention of movable types belongs to a blacksmith called Pi Shang, less than a century afterward, though such types are only now beginning to supersede the wooden blocks.

See Prémare's Notitia Linguæ Sinicæ (Malacca, 1831); Rémusat's Élémens de la Grammaire Chinoise (Paris, 1822); Marshman's Clavis Sinica; Julien's Syntaxe Nouvelle de la Langue Chinoise (Paris, 1869-70); [illegible] (Leipsic, 1881); Edkins' Grammar of the Chinese Colloquial Language commonly called the Mandarin Dialect (Shanghai, 1864); [illegible] of Chinese Characters [illegible]; the Dictionaries of Morrison, Medhurst, Williams, and others; Wylie's Notes on Chinese Literature [illegible]; Legge's Chinese Classics, and volumes [illegible] of the Sacred Books of the East; Biot's Le Tcheou Li, ou Rites des Tcheou (Paris, 1851); and Zottoli's Cursus Litteraturæ Sinicæ (Shanghai, 1879.)

COLOMBIA, *kō lōm' bē ä*, a republic occupying the north west corner of the South American continent, and including also the Isthmus of Panamá. Its limits were officially stated in 1887 as 12° 25′ n.–5° 8′ s. lat., and 70° 40′–82° 40′ w. long., and its area was estimated at 513,938 sq. m. (nearly as large as Great Britain, France, and Spain together), exclusive of most of its hundreds of islands and keys, which stretch as far north as the Mosquito coast. The population amounts to about 4,000,000, including some 200,000 uncivilized Indians who inhabit the remote forests. The situation of C., washed by two oceans, with a total coast line of nearly 3,000 miles, possessing all along the Atlantic shore and on the Pacific side of Panamá commodious bays and lagoons, and with several fair harbors even on the less favored coast to the south, presents great commercial possibilities, which should be increased by the opening of the canal from Colón to Panamá through the north west department. The surface of the country is extremely varied, with lofty mountains in the west and vast plains in the east scarcely above the level of the sea. For the mountains, see ANDES. This system spreads out in three great ranges like the rays of a fan, from the extensive plateau of Pasto in the south west, thus forming valleys running from n. to s. parallel to the three chains, except where disproportionate activity of the volcanic forces has caused an upheaval of the country near them. The fundamental formations of the country are igneous and metamorphic, and everywhere are traces of the disturbances (still not unfrequent in the form of earthquakes) that have upheaved plateaus and opened fractures that now mark the courses of the principal rivers. Of the sections outside the main cordilleras, the principal are the Sierra Nevada de Santa Marta, in the n., and the low Baudó range along the n.w. coast, which extends into Panamá. From the central cordillera descend the two principal rivers of C., the Magdalena and its tributary the Cauca, which flow north into the Caribbean Sea, besides several affluents of the Amazon in the east, and the Patía, which forces its way to the Pacific through a gorge between cliffs 10,000 to 12,000 feet high, and forms the only notable break in the long wall of the western cordillera from Darien to Patagonia. The eastern cordillera, by far the largest chain, consists of a series of extensive table lands, cool and healthy, where the white race flourishes as vigorously as in Europe. This temperate region is the most thickly populated portion of the republic, and on one of its plateaus, at an elevation of 8,[illegible] feet, stands the capital, Bogotá (q.v.). Eastward from this cordillera stretch vast llanos or plains through which flow the Meta, the Guaviare, and other tributaries of the Orinoco. Besides these, the chief rivers are the San Juan (navigable 150 miles), on the Pacific coast, the Atrato (q.v.), and Zulia (150 miles), flowing north; the Arauca (500), which, as well as the Meta (700) and Guaviare (850), feeds the Orinoco; and the Caquetá (1,350), the Putumayo (1,000), and the Napo (750), tributaries of the Amazon. The lakes are unimportant.

Climate and Productions.—In the course of one day's journey, the traveler may experience in this country all the climates of the world; perpetual snows cover the summits of the cordilleras, while the valleys are smothered in the rich vegetation of the tropics. The mean temperature ranges from 32° to 82°, according to the elevation. The climate of Panamá is notoriously unwholesome, and in some parts of Bolivar and Magdalena, in the n., marsh fevers prevail. The rainy season lasts from November to April, except among the low lying forests of the s.e., where the rain fall is distributed throughout the year, and in the Chocó coast district of the s.w., where, shut in from the n.e. winds, the heavy atmosphere brings [illegible] and [illegible] torrents of rain alternate. C. naturally yields a variety of productions corresponding to this great diversity of climate and of elevation. The hot region, extending to an elevation of about 3,000 feet, produces in abundance rice, cacao (q.v.), the bananas, yams, tobacco, indigo, cotton, caoutchouc, vegetable ivory, and many medicinal plants, and the forests, with their tagua and other stately palms, their rare balsam trees and valuable dye woods, are ablaze with flowers and climbers, and scented by the perfume of the delicate vanilla orchid. In the temperate zone, from 3,000 to [illegible] feet above the sea, many of these plants are equally common, but the cocoanut palm gives place to the oak, the [illegible] groups of [illegible] and arborescent ferns, and here flourish the coffee plant, the odorous cherimoya (q.v.) and [illegible], the fig, and the cinchona tree.

The wax-palm (q. v.) extends beyond this region, and is found at a height of nearly 11,000 feet, and large crops of potatoes, grain, and leguminous plants are raised in the cold region, but from 10,000 feet rises the bleak páramo, with its scanty vegetation, ending in lichens at the snow line. The fauna of C. is very extensive. Both coasts abound with turtles and pearl oysters, the rivers swarm with fish and alligators, and on the marshy banks the capybara is found; the forests are the haunt of the tapir, armadillo, cavy, opossum, and deer, and during the day are alive with monkeys (of which no less than seventeen species are common), squirrels, paroquets, and numerous bright-plumaged birds, whose notes give place at night to the plaintive cry of the sloth. Beasts of prey are the jaguar, puma, ocelot, margay, and bear. The boa and numerous other snakes are common, but venomous serpents cease at an elevation of 6,000 feet, the centipede and the chigoe are not met beyond 9,850 feet, while the plague of mosquitoes and ants, and of other more dangerous insects, is mainly confined to the lowlands. In the northern departments, and in the immense llaños of the east, great herds of cattle, descended from those imported by the Spaniards, are reared; in the central districts, shorthorns and other English, Dutch, and Norman cattle and horses have been introduced, and are largely raised throughout the temperate zone. Fish life ceases in the lakes at 13,000 feet; and in the solitudes above, the condor dwells alone. In minerals the country is exceedingly rich, although its scanty population, their poverty, and the absence of roads have combined to limit the exploitation of the precious metals. Nevertheless, in 188[illegible], claims were presented to 751 mines in Antioquia, and from this department alone over £400,000 worth of gold is annually exported. The department of Tolima is the richest in silver. It is estimated that gold to the value of £125,000,000, and silver to the value of nearly £7,000,000, have been exported since the 16th century; and over 95 per cent. of this ore has been found west of the Magdalena. Iron, copper, lead, coal, sulphur, zinc, antimony, arsenic, cinnabar, rock salt, crystal, granite, marble, lime, gypsum, jet, amethysts, rubies, porphyry, and jasper are also found; while much of the world's platinum is obtained from the upper San Juan, and the principal source of the finest emeralds is at Muzo, in Boyacá, although there are other mines near Nemocon, in Cundinamarca.

Commerce, Finance, &c.—The only industries common to all the departments of C. are agriculture and the rearing of cattle. Coarse cloth fabrics for the internal trade are manufactured to some extent in Santander and Boyacá, and chinaware and cardboard in Antioquia; also soap, [illegible], and candles are made in Bogotá, and there are two foundries and a glass factory in Cundinamarca, but straw hats, known abroad by the name of Panamá, although they are made [illegible] in certain parts of Tolima, Antioquia, and Santander, are perhaps the only manufactured article exported from the country. The transit trade across the Isthmus of Panamá, valued at £[illegible] per annum, is of far more consequence than the direct commerce. The foreign trade proper is mainly with Great Britain and the United States. The imports are mostly food-stuffs, textiles, machinery, and iron wares; the exports coffee, gold, silver and other ores, caoutchouc, ivory nuts, divi-divi, tobacco, cacao, cotton, [illegible], cattle, [illegible], timber and dyewoods, hides, and [illegible]. The average annual value of imports in the period [illegible] was $[illegible], of exports $13,581,800. In 1888 the value of imports was $[illegible], and of exports $13,032,[illegible]; but it is difficult to reduce these figures to British currency, for although the dollar has a nominal value of four shillings, the rate of exchange has [illegible] varied between five and a half and nine dollars to the pound sterling. The nation has for some years been [illegible]. For the fiscal year 1888-89 the expenditure was estimated at $[illegible], and the revenue at $[illegible], showing a deficit of $[illegible]; [illegible] the internal debt [illegible] amounted to $[illegible], the foreign debt was [illegible] of government paper [illegible]. There appears, however, some reason to expect that the measures adopted to meet the [illegible], and the present financial condition of the country is [illegible] hopeful. For the rest, the government [illegible] to [illegible] economy and the development of its rich mines, which it is endeavouring to encourage to the utmost, for relief from [illegible] embarrassments. All enterprise, however, is sadly hampered by the difficulty of communication. The Magdalena and the other great streams are the principal arteries of commerce, and a good deal of steamer traffic is carried on; but, besides that of Panamá, there were in 1888 only six railways open for traffic, with a total length of 215 miles, although several others were expected to be completed shortly. The telegraph system has 2,357 miles of lines, and this and the postal service (including a parcel post with Great Britain since 1886) are worked as efficiently as the condition of the country will permit. For the railway, canal and other information as to the Isthmus, see the article PANAMÁ.

Population. The chief aborigines of the country, the Chibchas, or Muyscas, who inhabited the plateau of Bogotá, ranked among the nations of the New World second to the Aztecs and Peruvians alone. They worshipped the sun, had a calendar, and a government closely resembling that of Japan, lived in communes, were industrious farmers, and dressed in garments of cotton. Their rich, beautiful language has been forgotten by their descendants, but is preserved in a grammar published at Madrid by the Dominican missionary, Bernardo de Lugo, in 1619. The rest of the country was occupied by a great number of tribes, with as many dialects as divisions, sinking from the grade of the Chibchas to the naked savages of the plains, who were little above the level of the brutes they hunted. Some of the intermediate races, while understanding Spanish, have preserved their primitive speech; the uncivilized Indians are now mostly confined to the eastern plains, the northern portion of Magdalena and the district of Darien and the Atrato. The pure whites form about a fifth of the entire population, and the Indian half breeds more than half; there are now scarcely any pure negroes left in the country, but the mulattoes and zambos, resulting respectively from the union of negroes with whites and Indians, exceed a sixth of the whole. Slavery was finally abolished in 1852, and in 1870 a system of compulsory education was adopted which has on the whole proved successful. Parochial, secondary, normal, and technical schools are now within general reach, and all the departments boast universities of more or less efficiency, except Magdalena, Tolima, and Panamá. Journalism is largely represented in most of the large towns; and at the capital a considerable number of books are published every year. The state church is the Roman Catholic, which in the management of its own affairs is independent of the civil authority; religious orders were suppressed in 1863, and toleration in matters of religion is guaranteed; but, by the terms of a concordat entered into with the holy see in 1888, in the universities and all educational establishments, public instruction is directed in conformity with the dogmas of the Roman Catholic Church, religion is one of the obligatory subjects of study, and diocesans are empowered to suspend teachers or professors who neglect or disobey this order.

History. The northern coasts of C. were visited by Ojeda and Amerigo Vespucci in 1499, and afterward by Bastidas; in 1502 Columbus explored part of the country, and endeavored to found on the Isthmus of Panamá the first Spanish colony on the American mainland. In 1513 Balboa (q.v.) discovered the Pacific, and Pizarro and Almagro sailed along the western coast of C. on their way to Peru in 1526. Ten years later Jimenez de Quesada broke the power of the Muyscan empire, and the Nuevo Reino de Granada was formed. As the country was opened up, the Indians sank, in spite of legislation designed for their protection, to the condition of serfs, and the policy of the crown, aided by the Inquisition, which was introduced in 1571, put an end to the democratic institutions of the early settlers. The region was administered by the Council of the Indies; nearly all posts were sold to Spanish speculators, who recouped themselves at the expense of the colonists; and even the commerce of the new possessions was granted as a monopoly to the merchants of Seville. The country formed a presidency, except during the years 1718-24, from 1564 to 1739, a period memorable for the disastrous descents of Drake, Morgan, Dampier, and others on the coast towns; it was then raised to a viceroyalty, which lasted until the war of independence.

In 1810 (July 20) the colony shook off the yoke of the mother-country, and entered upon the long struggle which ended in the election of Bolivar (q.v.) to the presidency of the Republic of Colombia, a term which, like the viceroyalty, embraced all that now belongs to Venezuela, C., and Ecuador. Independently of the singular difficulties of communication, and of the resulting absence of anything like natural unity, this unwieldly state contained from the beginning the germs of its own dissolution in the national character of its inhabitants. So long as union was necessary to meet external dangers, it maintained an imposing attitude in the eyes of the world; but gradually sectional interests and political jealousies did their work, and in 1831 the ill assorted elements of the confederation were separated forever. What is now C. was then formed under the title of the Republic of New Granada; but in 1861 a fresh civil war led to the establishment of the United States of Colombia. In 1863 a constitution was adopted, based on that of the United States of America, with a president elected for two years; but this proved altogether unsuited to the Colombians, and, after twenty years' trial, brought about the revolution of 1884-5. In 1886 a fresh constitution was adopted for the new Republic of C., placing the central authority in the strengthened hands of the federal government, and reducing the nine former self governing states of Antioquia, Bolívar, Boyacá, Cauca, Cundinamarca, Magdalena, Panamá, Santander, and Tolima to subordinate departments which still, however, retain the management of their own finances. The executive authority is vested in a president, whose term is extended to six years, assisted by a vice-president, seven ministers, and a council of state; and the legislative power rests with a senate and house of representatives. Capital punishment has been again established, and the members of the supreme court of justice are made immovable. The strength of the army is fixed at 6,500 in time of peace, but in case of war the executive can raise this as circumstances may require.

See E. Reclus, Voyage à la Sierra Nevada de Sainte Marthe (Paris, 1861); Colonel F. Hall, Colombia (Phila., 1871); Esguerra, Diccionario Geográfico de Colombia (Bogotá, 1879); Pereira, Les États-Unis de Colombie (Paris, 1883); Perez, Geografía General (Bogotá, 1883); Étienne, Nouvelle Grenade (Geneva, 1887); Dr W. Sievers, Reise in der Sierra Nevada de Santa Marta (Leip., 1887); and the same author's Cordillere von Mérida (Vienna, 1888) contains some notes on eastern Santander. See also the Descripcion published by the Colombian government in 1887, with the supplement on the trade with Spain, published at Barcelona in 1888; F. Bianconi's Notice Descriptive et Carte Commerciale (Paris, 1888); and papers by F. A. A. Simons (1879, '81, '85) and R. B. White (1883), in the Proceedings of the Royal Geographical Society.

COLUMBIA, *kō lŭm' bĭ a*, BRITISH: is a province of the Dominion of Canada, bounded on the n. at the 60th parallel of lat. by the British N.W. territory; on the s. by the United States; on the w. by the Pacific ocean and part of Alaska; and on the e. by the districts of Alberta and Athabasca in N.W. territories. The area of the province is recorded as 341,305 sq. m., including Vancouver island ([illegible] sq. m.) and Queen Charlotte islands (5,100 sq. m.). The last named consist of a group of about 150 islands, their united length being 156 m., lying about 200 m. n.w. of Vancouver island. B. C. was practically under the control of the Hudson Bay Co. until 1858, when, owing to the discovery of gold, and the consequent immigration of miners, it was made a crown colony. Vancouver island was made a crown colony in 1849, and leased to the Hudson Bay Co. for ten years. The two colonies were united in 1866, and the province joined the Canadian confederation on 1871, July 20.

The scenery is rugged and picturesque, being diversified with mountain, lake, and river. Between the w. slopes of the Rocky mountains (highest peaks, Mt. Brown, 16,000 ft., and Mt. Hooker, 15,700 ft.) and the sea the whole of the space is occupied to a considerable extent by spurs and outlying groups belonging to that chain. In the immediate vicinity of the coast these form a nearly continuous line of mountains of moderate elevation, known as the Cascade range. The territory is well watered by rivers which have their origin in the highlands, and find their way into the Pacific ocean. Of the rivers the most important is the Fraser, [illegible] m. long and 600 yds. wide at its principal outlet in the gulf of Georgia, the arm of the sea which separates Vancouver island from the mainland. Other rivers in B. C. are the Columbia (which has only its upper portion within the province), the Stickeen, the Skeena, and the Finlay.

Many varieties of climate are found in this province. That of Vancouver island and the coast of the mainland is very similar to that of the s. of England. The interior of the mainland is divided as to climate into three zones—the s., the middle, and the n. The s. lies, for the most part, between the 49th and 51st parallels n. lat., and the fall of rain and snow in this district is slight. It contains a good deal of grass or pasturage lands, but for arable purposes the land requires irrigation. Between 51° and 53° n. lat. is the middle zone; it includes the high mountains w. of the Columbia, contains dense forests, and the rainfall is considerable. The n. zone lies between 53° and 60° n. lat.

Population. In 1881 the population according to the census returns was 49,459, including 25,661 Indians. It was in 1888 estimated at between 70,000 and [illegible]. The principal towns on Vancouver island are Victoria, the capital ([illegible] inhabitants), and Nanaimo ([illegible]); on the mainland there are New Westminster ([illegible]), formerly the capital of B. C., and Vancouver ([illegible]), the terminus of the Canadian Pacific r.w. The Indians of B. C. are as a rule law-abiding and industrious. The coast Indians live largely by hunting and fishing, and are also employed in connection with the lumber industry and the salmon-canneries.

The province is represented in the Dominion senate by three members, and in the house of commons by six. The provincial government is administered by a lieutenant-governor appointed and paid by the Dominion, and a legislative assembly of [illegible] members elected by the inhabitants. Education is compulsory and free between the ages of seven and twelve.

The province is not likely to become an agricultural country, but there is a considerable area of land available for arable and pastoral farming both on Vancouver island and on the mainland in the river valleys. On the w. of the island but little arable land is to be found. The principal settlements are upon the e. and s. coasts, but good land is still to be found on the e. coast and also on the n. The rich valley of the lower Fraser or New Westminster district is the largest compact agricultural area on the mainland. There are large tracts of alluvial soil farther up the Fraser and along several of its most important tributaries. Of the total area (say 218,000,000 acres) only about [illegible] acres are as yet occupied. The fruit-growing industry is expected to become a very important [illegible]. The principal industries of the province are connected with the mines, the fisheries, and the forests. [illegible] mineral resources. Gold, coal, silver, iron, copper, galena, mercury, platinum, antimony, bismuth, [illegible] and other minerals have been discovered in different parts, copper being very widely distributed. Gold [illegible] to the value of [illegible], and the value of the output from 1858 to 1887 was [illegible]. The quartz mines have hardly been touched; all the metal hitherto secured has come from the alluvial deposits. Coal and lignite are known to exist in many parts of the mainland. At Nanaimo, on Vancouver island, there is a large coal field, and the mines are the most important on the Pacific coast. Over 413,000 tons were raised in 1887, and 334,839 tons were exported, largely to the United States. Nanaimo is connected by rail with Esquimalt, the headquarters of the Pacific squadron, and the site of a large graving dock. Iron is found in many localities. The fisheries of the province are most extensive, but, excepting the salmon fishery, have not yet been developed. The seas, bays, gulfs, rivers, and lakes of the province swarm with food fishes. There are numerous salmon canneries in operation. The fur sealing industry in the Pacific is also a valuable one. But little timber has yet been cut, notwithstanding the immense forests of magnificent trees that abound in B. C. The important commercial trees are the Douglas pine, Menzies fir, yellow cypress, and maple, and the shipments so far have been chiefly to Australia, South America, the Cape, and China.

The value of the imports in 1887 was $3,626,139, of which $793,434 came from Great Britain, and $2,059,035 from the United States. The exports were valued at $2,371,841. To Great Britain the exports were $810,977, and to the United States, $2,220,092.

Until the completion of the Canadian Pacific rw., in 1885, B. C. was isolated from the rest of the dominion, and the various parts of the province had little or no communication with each other. Now, however, everything points to a rapid increase in its population and in the consequent development of its resources. It certainly occupies a favorable position in regard to the markets of the w. of South America and Australasia; and it is hoped that it may become the entrepôt for a through trade between Canada, China, and Australia. Lines of magnificent steamers, in connection with the Canadian Pacific r.r., are already plying regularly between Vancouver and Hong Kong. In 1888 proposals were under the consideration of the imperial, Canadian and Australian governments for the laying of a cable under the Pacific ocean, and the growing urgency of the needs developed by the rapidly increasing commerce along this route insures the carrying out of the project within the near future.

Recent explorations, 1887, under the direction of Dr. G. M. Dawson, have added much to our knowledge of the n. interior of B. C., including about 60,000 sq. m. of a mountainous region interspersed with arable valleys and plateaus, which, as in Washington and Oregon, are humid near the coast and very dry e. E. of the Coast range is another, e. of Dease lake, and still further e. another that sends streams to the Pelly river and Frances lake; the three ranges with few glaciers, if any. The Selkirk range is a great glacier region in s.e. B. C., and lies w. of the Rocky mountains proper, between the Columbia and Kootenie rivers. It was in part explored 1888, by Revs. W. S. Green and H. Swanzy, who published a map reproduced in Appleton's Annual Cyc. 1888. One of the great glaciers, supplying the Illecellewaet river, is in sight from the Canadian Pacific rw.; also Mt. Sir Donald (of which a magnificent painting was made last year by Bierstadt and sent to England), 10,645 ft. high, and named in honor of the late Canadian premier. The Canadian Pacific road passes through this range at Rogers Pass, which is 4,313 ft. above the sea. The above mentioned glacier was estimated to be 500 ft. thick, and move at its centre 20 ft. in 13 days. The Geikie glacier, 4 m. long and 3,000 ft. wide, is another ice-stream from the great Illecellewaet snow-field. Alpine flowers, especially the scarlet *Castilleia miniata*, make brilliant gardens of the moraines; and the nocturnal sewellel, size of muskrat and allied to the beaver, has a remarkable habit of gathering the flowers and neatly arranging bouquets of them around its burrows, perhaps an instinct to throw enemies off the scent by the odor of the blossoms. An interesting feature of B. C. is the intricate continuous system of coastwise inlets and straits, navigable for vessels to and from Alaska.

COREA, *kō-rē′-a* (native name Choson, 'Morning Calm'), a kingdom on the east coast of Asia, stretching as a peninsula from 34° 30′ to 43° n. lat., and from 124° 30′ to 130° 50′ e. long., between the Sea of Japan and the Yellow Sea, and separated by the Strait of Corea from the Japanese islands. It has a coast line of about 1,700 miles, and a total area of about 90,000 sq. m. The north boundary line is formed by the river Tu-man flowing n.e., and the Am-nok flowing s.w. from the watershed of Paik-to-san. The Tu-man, for the last five miles of its course, separates Russian Asia from C. A belt of land 5,600 sq. m. on the north side has for the last three centuries been constituted a neutral zone between C. and Manchuria, but is now being gradually encroached upon both from the Chinese and Corean sides. The east coast is high, monotonous, and but slightly indented, with very few islands and harbors. The south and west shores are deeply and manifoldly scooped and beset by numberless picturesque islands. From these island-fringed shores, especially on the west coast, mud banks extend out to sea beyond sight. While the tide on the east coast is very slight—only two feet at Gensan—it increases on the south and west coasts in a north direction, rising to thirty-three feet at Chemulpo. The rapid rise and fall of tides and the vast area of mud left bare at low water cause frequent fogs, and render the numerous inlets little available except for native craft. On the west coast the rivers are frozen in winter, but the east coast is open the whole winter through. Quelpaert, the largest island, 40 by 17 miles, lies 60 miles s. of the mainland. Port Hamilton, between Quelpaert and C., was for a time an English possession, but in 1886 was given to China. The Russians have been credited with a desire to possess the magnificent harbor of Port Lazaref, on the Corean mainland. See the map of CHINA.

Occupying about the same latitude as Italy, C. is also like Italy hemmed in on the n. by alpine ranges, and traversed from n. to s. by a branch chain. From the n. the chain runs close to the coast, till, about the 37th parallel, it trends inland. The chain rises in elevation from the n. to the centre, throwing out feelers to the w., which break up the country into a series of narrow valleys debouching on the sea. Precipitous on the e., the chain slopes toward the broader west side, which is accordingly the more developed part; though Kyöng-sang province in the s.e. is one of the richest in C. C. is on the whole very mountainous. Among the summits are Hien-fung, measured from sea at 8,114 feet high, though later travelers deem this height an exaggeration. Mount Popoff, at 38th parallel; Coxcomb, n.e. of Seoul (Söul), rises to 4,800 feet. The mountains are mostly of primary rock; those of Hwang-hai-do are, however, mesozoic, and about the centre are lava and volcanic rocks. The chief rivers on the west coast are Keum, navigable for boats drawing 4½ feet 30 miles up; Han, navigable to a little above Seoul, 80 miles; Tai-dong, navigable to Phyong-yang, 75 miles; Am-nok, far the greatest, navigable to above Wi-won, 175 miles. Flowing through beautiful well-timbered mountains, the Am-nok has many affluents, and in the summer floods its waters rise to full 40 feet, even where a mile or more wide. In the s.e. the Nak-tong is navigable for boats drawing 4½ feet for 140 miles up.

The climate is healthy, bracing in the n., but colder in winter and hotter in summer than in corresponding European latitudes. The heat is tempered by sea-breezes, but in the narrow inclosed valleys becomes very intense. The Han is frozen in winter so as to be available at Seoul, where it is 400 yards broad, for cart traffic three months in the year. The Tu-man is usually frozen five months in the year. Various kinds of timber trees abound, except in the w., where wood is scarce and is sparingly used; and in other parts the want of coal has caused the wasteful denudation of many hillsides. The fauna is very considerable, and besides tigers, leopards, and deer, includes pigs, tiger-cats, badgers, foxes, beavers, otters, martens, and a great variety of birds. Among the products are rice, wheat, beans, cotton, hemp, maize, millet, sesame, perilla. Ginseng grows wild in the Kange mountains, and is also much cultivated, government levying the duties upon it, notwithstanding much smuggling, yielding about half a million dollars annually. The domestic animals are few. The cattle are excellent (the bull being the usual beast of burden), the ponies very small but hardy, fowls good, pigs inferior. Iron ores of excellent quality are mined; and there are copper mines in several places. The output of silver is very small; in 1886 the customs' returns showed the value of gold exported that year to be $503,296. The principal industries are the manufacture of paper, mats woven of grass, split bamboo blinds, oil paper, and silk. The total value of the foreign imports in 1887 was £469,260, two thirds representing cotton goods, the native exports reached £136,666, chiefly beans and cowhides. The foreign vessels entering the treaty ports in 1886 were 557 of 161,901 tons and clearing 560 of 162,434 tons. Three-fourths of the trade is with Japan, and over a fifth with China. British goods go by way of these countries. Business has hitherto been done chiefly by barter, imports being exchanged largely for gold dust, and Japanese silk piece goods being a current exchange for trade inland; but in 1888 the mint at Seoul was approaching completion, and a beneficial effect on commerce is anticipated from the introduction of a convenient and sufficient coinage. Seoul is connected with Taku and Port Arthur by telegraph.

The population is variously estimated at from eight to ten millions, of a mainly Mongolian type, though some assume that there is a Caucasic element in the stock. Hair not quite black, and even blue eyes and an almost English style of face are met with. The language is intermediate between Mongolo-Tartar and Japanese, polysyllabic and agglutinating. It has an alphabetic system of its own, but Chinese characters have taken the place of Corean in official writing and correspondence. A grammar and dictionary by Ridel were published at Yokohama in 1879. The philosophy of C. is Confucian, but in spite of great restrictions on Buddhism there are numerous Buddhist monasteries. Evidence of other religion exists in the miriok, half length human figures carved in stone. The government is an hereditary and absolute monarchy, and carried on through three ministers, besides whom are ministers of six departments. Caste is very powerful, and no office of even only local importance is held by others than a noble. There is strictly no well-to-do middle class, those who are not officials being cultivators. In some districts the lower classes live in a very squalid condition, and mud hovels thatched with straw are the usual houses everywhere; but beggars are rare, and absolute distress is seldom met with. C. is divided into eight provinces or Do; three on the east and five on the west coast. Seoul, the capital, has a pop. of about 240,000. Phyeng-yang, 36 miles from the sea, on the Tai-dong, has a pop. of over 20,000. It is the centre of a silk industry, and 20 miles off, at Keum-san, are gold washings. Kai-söng is important as the capital of the old dynasty, and for its cultivation of ginseng.

The earliest records of C. carry us back to 1122 B.C., when Ki-tze with 5000 Chinese colonists brought to C. Chinese arts and polities. Down to modern times C. has remained perfectly secluded. Almost the first knowledge of C. obtained by Europe was through the shipwreck of some Dutchmen on the coast in 1653. The missionary De Cespedes had, however, entered C. at the end of the 16th century, and from 1777 other missionaries followed. In 1835 M. Maubant gained a footing in C., but in 1866, after thousands of converts had been put to death, the only three Catholic missionaries left had to flee for their lives. To avenge the death of the Catholics the French sent an expedition, which was, however, repulsed, while a stranded American schooner was burned with her crew in sight of Phyeng-yang. In 1871 the United States was baffled in the attempt to obtain redress. Japan was the first to effect a footing in C. in 1876, when a treaty was concluded between the two countries. C. followed this up by treaties with China and the United States in 1882, with Germany and Great Britain 1883, with Italy and Russia 1884, and with France 1886. The three ports opened to foreign trade are Chemulpo, Fusan, and Gensan. The new policy has led to discontent, and there was an insurrection in 1884. A rumor that Russia was about to establish a protectorate over C. in 1888 was officially denied.

See Dallet, Histoire de l'Église de Corée (Paris, 1874); Oppert, A Forbidden Land (Lond., 1880); J. Ross, History of Corea (Lond., 1880); Griffis, Corea, the Hermit Nation (New York, 1882), and Corea Without and Within (1885); Lowell, Chosön (Lond., 1886); W. R. Carles, Life in Corea (Lond., 1888).

COSTA RICA.—1

COSTA RICA, *kŏs' tâ rē kâ*: the most southerly of the five republics of Central America. It is divided into six provinces, and occupies the entire breadth from sea to sea between Nicaragua on the one side and Colombia on the other, with an area of 23,233 miles, or about two-thirds that of Ireland. The population, which is mostly concentrated in a central plateau of about 3,500 sq. m., was in 1885 officially estimated at 213,785, including some 10,000 uncivilized Indians; but in 1886, again, an official estimate gave only 196,270. The whites are mostly of pure Spanish descent. Except on the coast, the country is generally mountainous, with many volcanoes, all under 11,500 feet; on the Atlantic slope dense forests prevail, but wide savannahs are more frequent on the Pacific side. The climate is mild and temperate in proportion to the elevation, and the soil of the valleys and uplands is very fertile. Prior to the discovery of gold in 1823, C. R. was a land of poverty, owing its title of 'The Rich Coast' solely to the anticipations of its first Spanish settlers; since then foreign capital has opened up much of the country, and brought its products within reach of a market. Although rich in gold, silver, copper, and other metals, its chief industry is agriculture, but the population is very scanty, and only a twentieth part of the land is under cultivation. Besides valuable timber and dye woods, it yields tobacco, sugar, bananas, cacao, caoutchouc, sarsaparilla, and vanilla, which with hides, tortoise-shell, and mother-of-pearl, are largely exported. But the staple of trade is coffee, to which is principally due the reviving prosperity of 'the Coffee Republic.' Of the total of $2,798,450 exports in 1885, coffee represents over $2,109,750. The imports, chiefly manufactured goods from Great Britain, and wheat and other products from the United States, amounted in the same year to $3,104,000. The chief ports are Punta Arenas and Limon (q.v.); the other places of any note are San José, the capital, pop. 25,000 and the cities of Cartago (12,000), Alajuela (9,000), and Heredia (9,000).

Discovered by Columbus in 1493, and probably first settled on his fourth voyage, in 1502, C. R. has made much the same history as its neighbors: pronunciamientos have been frequent; its present constitution (1872) is the ninth since the declaration of independence in 1821; and for the ten years preceding 1883 that constitution was practically suspended. The government is now, however, accounted the best and most liberal in Central America. The president is chosen every four years, and the members of congress are elected for the same term. There is a small standing army of 600 men belonging to the militia, which embraces all males between the ages of eighteen and thirty, while those from thirty to thirty-five form the reserve; and while the Roman Catholic is the state church, religious liberty is guaranteed. In 1886 the revenue was $2,123,214, mainly derived from the government monopoly of spirits and tobacco, and the expenditure, $2,621,740. The foreign debt was converted into a new obligation of $9,000,000 at five per cent. from 1888, January, the interest being paid out of customs revenue. In 1889 there were 180 miles of railway open, and 51 in construction, and 600 miles of telegraph.

In 1889 the population was estimated at 205,730. The school attendance in 1885 was 12,743, besides 2,500 in private schools. The number of children of school age was in 1885 estimated at 27,345. The strength of the militia in 1889 was estimated at 31,821.

The foreign commerce in 1888 was: exports, $4,360,130, of which coffee, 10,258 tons, was valued at $3,651,340; 6,825 tons going to Great Britain and 3,175 tons to the U. S. Bananas is the next most important article of export. Following are hides and skins, plants, mother of pearl, caoutchouc. The total value of imports was $4,005,480. The exports, 1889, were valued at $5,993,335; imports, $4,855,931. Wheat and Indian corn, potatoes and rice are grown extensively. The revenue for the year ending 1889, March 31, was $4,000,816; the expenditures, $3,846,414.

See Peralta, Costa Rica: Its Climate, etc. (Lond. 1873); Costa Rica, Nicaragua y Panama, en el Siglo XVI (Madrid and Paris, 1883); and Costa Rica y Colombia (Madrid, 1886); also Calvo, República de Costa Rica (San José, 1887).

CRETE, *krēt* (Ital. *Candia*, Turk. *Kirit*, Gr. *Krētē*): a Turkish island in the Mediterranean, is the most s. portion of Europe. It is 60 m. s. of Cape Malea in Greece, 110 s.w. of Cape Krio in Asia Minor, 100 s. s.w. of Rhodes, and 300 w. of Cyprus. Its length is 156 m.; its breadth varies from 30 to as little as 7 m.; and its area is 3,326 sq. m., or half as big again as Delaware. The climate, inferior only to that of Rhodes, is excellent, and has always been celebrated for its salubrity. The air is pure, fresh, and bracing; the rainfall about 27 inches. In July, Aug., and Sept. it is hot in the plains, but the sea-breezes temper the heat, especially at night, and during the rest of the year the climate is delightful.

Crete is for the most part mountainous, especially in the w., where the White mountains form the most important range. In the centre Mt. Ida, now called Upsiloriti, the loftiest in C., rises to a height of 8,065 ft. The e. is less mountainous, and everywhere numerous small valleys are exceedingly fertile. The rivers are unimportant, being almost invariably dry in summer, and in winter and spring rushing down to the sea as torrents. The country is, however, fairly well watered, even in the dry season, as springs abound all over the island.

The coast line, deeply indented on the n., includes some good harbors: Suda bay, on the n., is one of the finest anchorages in the Mediterranean, and now well known by name as the resort of the British fleet at interesting political crises; and on the s. is the small but well sheltered Kaloi Limenes, or the Fair Havens, by which name it is spoken of in Acts, xxvii. 8. In the immediate neighborhood of C. are three islands: Clauda, the modern Gavdo, off the s.w. coast, with an area of about 15 sq. m., also spoken of in Acts, xxvii. 16, was in the middle ages the see of a bishop. At the present day it is remarkable for its lighthouse, whose brilliant revolving light (flash every minute) is visible at a distance of 25 m. Dia, eight m. n. of Candia, and Grabusa, at the extreme n.w., were both fortified by the Venetians.

Wheat and fruit are the most important products. Oranges and lemons particularly flourish. The grapes are good, but the wine, though abundant and cheap, is of very inferior quality. In the middle ages the wine made at Malevesi near Canea, was celebrated under the well known name of Malmsey (Fr. *Malvoisie*). The forests, as usual in the Levant, have almost entirely disappeared. But on the hills the cypress flourishes, and in the plain country the olive is the most important tree. Chestnuts, valonia oak, and carobs also grow in certain localities. The principal exports are olive oil, soap, carobs, wool, cheese, valonia acorns, and fruits. Sheep are largely bred, and the wool is exported, but is not of fine quality. Sponges are found upon the coast. There are few wild animals, the most important being the Cretan ibex; there are no serpents of any kind, and there is a paucity of game, whether of fur or of feather.

The population, in 1881 numbering 279,000, chiefly of Greek descent, consists of 204,100 Christians and 74,390 Mohammedans, although these latter are rarely Turks but native Mussulmans, speaking Greek and not Turkish as their mother tongue. There are also 700 Jews and only 250 Roman Catholics. The Cretans are a turbulent race, of proved and proverbial mendacity, bold, independent, and hard to govern. They are practically independent, they pay no taxes to Stamboul, and the viceroy who represents the dominion of the Porte in the island is invariably a native or 'Greek' Christian.

Crete had once, according to Homer, 'a hundred cities.' There are now but three towns of any importance: Megala Kastron or Candia, population 14,000; Rhethymnos or Retimo, 8,000; and Canea or Khania, the residence of the governor and of the foreign consuls, about 23,000.

History.—The early Cretans were seafaring Greeks, rivals of the Phœnicians. The island was the favorite resort of colonists from every part of Greece (Odyssey, xix. 175), and was celebrated at once for its climate, its laws, and its great law giver, judge, and king, Minos. C. was subdued by the Romans in 68 B.C. under Q. Metellus, called in consequence Creticus. It was occupied in succession by the Saracens and the Greek emperors with varying fortune until in 1204 it passed under the dominion of Venice, in whose hands it continued for over 460 years. It was conquered by the Ottoman Turks in 1669. In 1821 the Greek insurrection was followed by an outbreak in C. From 1830 to 1840 C. was administered by the Viceroy of Egypt by order of 'the powers.' There were revolts against the Turks in 1858 and 1866, and a great measure of independence was granted to the Cretans in 1868, which was confirmed by the Treaty of Berlin. See Spratt's Travels in Crete (1865), and C. Edwardes' Letters from Crete (1887).

CRUSADES.—1

CRUSADES, *krô sādz'*, is the name given to the religious wars carried on during the middle ages between the Christian nations of the West and the Mohammedans. In time, however, the name came to be applied to any military expedition against heretics or enemies of the pope. The first of the regular crusades was undertaken simply to vindicate the right of Christian pilgrims to visit the Holy Sepulchre. On the conquest of Palestine, however, the object of the crusades changed, or at least enlarged, and the efforts of the subsequent crusaders were directed to the recovery of the whole land from the Saracens, who had repossessed themselves of it. From an early period in the history of the church it was considered a pious act to make a pilgrimage to the Holy Sepulchre, and to visit the various spots which the Saviour had consecrated by his presence. When Palestine was conquered by the Arabs in the 7th century, that fierce but generous people respected the religious spirit of the pilgrims, and allowed them to build a church and a hospital in Jerusalem. Under the Fatimides of Egypt, who conquered Syria about 980 A.D., the position both of the native Christian residents and of the pilgrims became less favorable; but the subjugation of the country in 1065 by brutal hordes of Seljuk Turks from the Caucasus rendered it intolerable. These barbarians, but recently converted to Mohammedanism, were nearly as ignorant of the Koran as of the Scriptures. They hardly knew their fellow religionists, and are said to have wreaked their vengeance on the Mussulmans of Syria as well as on the Christians. The news of their atrocities produced a deep sensation over the whole of Christendom. The first to take alarm were, naturally enough, the Byzantine monarchs. In 1073 the Greek emperor, Manuel VII., sent to supplicate the assistance of the great Pope Gregory VII. against the Turks, accompanying his petition with many expressions of profound respect for his holiness and the Latin Church. Gregory, who beheld in the supplication of Manuel a grand opportunity for realizing the Catholic unity of Christendom, cordially responded; but circumstances prevented him from ever carrying the vast designs which he entertained into execution, and the idea of a crusade died gradually away. It was, however, revived by his successor, Urban II., an able and humane man, whose sympathies were kindled by the burning zeal of Peter the Hermit, a native of Amiens, in France, who had made a pilgrimage to the Holy Land, and witnessed the cruelties perpetrated by the Turks. He was now traversing Europe, preaching everywhere to crowds in the open air, and producing the most extraordinary enthusiasm by his impassionate descriptions of how pilgrims were murdered, robbed, or beaten, how shrines and holy places were desecrated; and how nothing but greed restrained the ruffian Turks (who made the Christians pay heavy taxes for their visits to Jerusalem) from destroying the Holy Sepulchre, and extirpating every vestige of Christianity in the land. As soon as the feelings of Europe had been sufficiently heated, Urban openly took up the question. Two councils were held in 1095. At the second, held at Clermont, in France, a crusade was definitely resolved on. The pope himself delivered a stirring address to a vast multitude of clergy and laymen, and as he proceeded, the pent up emotions of the crowd burst forth, and cries of *Deus vult* (God wills it) rose simultaneously from the whole audience. 'This tumultuous cry,' says Hallam, 'which broke from the heart and lips of the assembly at Clermont, affords at once the most obvious and most certain explanation of the leading principle of the crusades.' These words, *Deus vult*, by the injunction of Urban, were made the war cry of the enterprise, and every one that enlisted in it wore, as a badge, the sign of the cross; hence the name crusade (Fr. *croisade*, from Lat. *crux*, 'a cross').

First Crusade.—From all parts of Europe thousands upon thousands hurried at the summons of the pope to engage in the holy war. 'The most distant islands and savage countries,' says William of Malmesbury, 'were inspired with this ardent passion. The Welshman left his hunting, the Scotsman his fellowship with vermin, the Dane his drinking party, the Norwegian his raw fish.' It is said that in the spring of 1096 not less than 6,000,000 souls were in motion toward Palestine. This, however, must be a huge exaggeration. What we do know positively is that previous to the setting out of the great hosts of European chivalry, four armies (if disorderly multitudes deserve that name), amounting in all to 275,000 persons, had departed for Palestine. The first consisted of

20,000 foot, and was commanded by a Burgundian gentleman, Walter the Penniless. It marched through Hungary, but was cut to pieces by the natives of Bulgaria, only a few, among whom was Walter himself, escaping to Constantinople. The second, consisting of 40,000 men, women, and children, was led by Peter the Hermit. It followed the same route as its predecessor, and reached Constantinople greatly reduced in numbers. Here the two united, crossed the Bosphorus, and were utterly defeated by the Turks at Nicæa, the capital of Bithynia. A third expedition of a similar kind, composed of 15,000 Germans, led by a priest named Gottschalk, was dispersed with terrible slaughter in Hungary; which also proved the grave of the fourth, a horde consisting of about 200,000 wretches from France, England, Flanders, and Lorraine, who had swept along through Germany, committing horrible ravages, especially against the Jews, whom they murdered without mercy. Now, however, the real crusaders made their appearance: the gentry, the yeomanry, and the serfs of feudal Europe, under chiefs of the first rank and renown. In this, the most successful of the crusades, neither the emperor nor any of the kings of the West participated; and to this circumstance was doubtless due its more fortunate termination. Six armies appeared in the field, marching separately, and at considerable intervals of time. Their respective leaders were Godfrey of Bouillon, duke of Lorraine; Hugh the Great, count of Vermandois, and brother of Philippe, king of France; Robert Curthose, duke of Normandy, the son of William the Conqueror; Count Robert of Flanders; Bohemond, prince of Tarentum, son of the famous Guiscard, under whom was Tancred, the favorite hero of all the historians of the crusade; and lastly, Count Raymond of Toulouse. The place of rendezvous was Constantinople. The Greek emperor, Alexius, afraid that so magnificent a host (there were in all not less than 600,000 men, exclusive of women and priests) might be induced to conquer lands for themselves, cajoled all the leaders, excepting Tancred and Count Raymond, into solemnly acknowledging themselves his liegemen as long as they remained in his territory. After some time spent in feasting, the crusaders crossed into Asia Minor accompanied by the unfortunate Peter the Hermit. Here their first step was the siege and capture of Nicæa, the capital of Sultan Soliman, 1097, June 24. This monarch was also defeated by Bohemond, Tancred, and Godfrey, at Dorylæum. Baldwin, brother of Godfrey, now crossed into Mesopotamia, where he obtained the principality of Edessa. After some time, the crusaders reached Syria, and laid siege to Antioch. For seven months the city held out, and the ranks of the besiegers were fearfully thinned by famine and disease. Many even brave warriors lost heart, and began to desert. Melancholy to relate, among the deserters was the poor enthusiast who had inspired the enterprise. Peter was actually several miles on his way home when he was overtaken by the soldiers of Tancred, and brought back to undergo a public reprimand. At length, 1098, June 3, Antioch was taken, and the inhabitants were massacred by the infuriated crusaders, who were in their turn besieged by an army of 200,000 Mohammedans sent by the Persian sultan. Once more famine and pestilence did their deadly work. Multitudes also deserted, and escaping over the walls, carried the news of the sad condition of the Christians back to Europe. But again victory crowned the efforts of the besieged. In 1098, June 28, the Mohammedans were utterly routed, and the way to Jerusalem opened. It was on a bright summer morning (1099) that 40,000 crusaders, the miserable remnant of that vast array which two years before had laid siege to Nicæa, obtained their first glimpse of Jerusalem. On July 15, after a siege of rather more than five weeks, the grand object of the expedition was realized. Jerusalem was delivered from the hands of the infidel. As on the occasion of all the triumphs of these first crusaders, a horrible massacre ensued. Religious enthusiasm evoking the fiercest and most strangely opposite passions, naturally led to these excesses on the part of men reared in the [illegible] times of feudal sin. Eight days after the capture of the city, Godfrey of Bouillon was unanimously elected king of Jerusalem. His kingdom, at first comprising little more than the territory of Jerusalem, was gradually extended by conquest, until it embraced the whole of Palestine. A language resembling Norman French was established, a code of feudal laws drawn up, Jerusalem was erected into a patriarchate, and Bethlehem into a bishopric. The best part of Asia Minor was restored to the Greek empire, while Bohemond became prince of Antioch. For nearly fifty years the three Latin principalities or kingdoms of the East—Edessa, Antioch, and Jerusalem—not only maintained themselves against the attacks of the Mohammedans of Egypt and Syria, but greatly increased in size, power, and wealth. At Jerusalem were founded the two famous orders of the Knights Hospitallers of St. John and the Knights Templars.

Second Crusade. In 1144 the principality of Edessa was conquered by the emir of Mosul, and the Christians slaughtered. His son, Noureddin, advanced to destroy the Latin kingdoms of Syria and Palestine. Europe once more trembled with excitement. A second crusade was preached by the famous St Bernard, abbot of Clairvaux, in Champagne; and early in 1147 two enormous armies, under the command of Louis VII., king of France, and Conrad III., emperor of Germany, marched for the Holy Land. Their united numbers were estimated at 1,200,000 fighting men. The expedition, nevertheless, proved a total failure. The Greek emperor, Manuel Comnenus, was hostile; and through the treachery of his emissaries, the army of Conrad was all but destroyed by the Turks near Iconium, while that of Louis was wrecked in the defiles of the Pisidian mountains. After a vain attempt to reduce Damascus, the relics of this mighty host returned to Europe.

Third Crusade. The death-blow, however, to the kingdom of Jerusalem, and the power of the crusaders, was given, not by Noureddin, but by Salah-Eddin, commonly called Saladin, a young Kurdish chief, who had made himself sultan of Egypt, and who aspired to the suzerainty of the Mohammedan world. He invaded Palestine, took town after town, and finally, 1187, October, compelled Jerusalem itself to capitulate, after a siege of fourteen days. The news of this led to a third crusade, the chiefs of which were Frederick I. (Barbarossa), emperor of Germany; Philippe Auguste, king of France, and Richard Cœur de Lion, king of England. Barbarossa took the field first in the spring of 1189, but lost his life by fever caught from bathing in the Orontes. His army, much reduced, joined the forces of the other two monarchs before Acre, which important city was immediately besieged. In vain did Saladin attempt to relieve the defenders, and after a beleaguerment of twenty-three months, the place surrendered. But the crusaders were not united among themselves. Philippe soon after returned to France; and Richard, after accomplishing prodigies of valor, which excited the admiration of the Saracens, concluded a treaty with Saladin, by which "the people of the West were to be at liberty to make pilgrimages to Jerusalem, exempt from the taxes which the Saracen princes had in former times imposed." This, as has been previously noticed, was all that had been claimed by the first crusaders. In 1192, Oct. 25, Richard set sail for Europe.

Fourth Crusade. Crusading unfortunately now became a constituent of the papal policy; and in 1203 a fourth expedition was determined upon by Pope Innocent III., although the condition of the Christians was by no means such as to call for it. It assembled at Venice; but how entirely secular crusading had become will be seen from the fact that the army never went to Palestine at all, but preferred to take possession of the Byzantine empire. The leader of this host of pseudo-crusaders, Baldwin, count of Flanders, was seated on the throne of the East in 1204, and thus founded the Latin empire of Constantinople, which lasted for fifty-six years. Nothing was achieved in this crusade for the recovery of Jerusalem; but Innocent had his reward in the temporary supremacy of the papal see over the Eastern Church.

Fifth Crusade. This was commanded by Frederick II., emperor of Germany. It began in 1228, and terminated in a treaty between that monarch and the sultan of Egypt, by which Jerusalem (with the exception of the Mosque of Omar), Jaffa, Bethlehem, and Nazareth were ceded to Frederick, who, after being crowned king of Jerusalem, returned to Europe, leaving his new possessions in a state of tranquillity. Frederick, however, who had been excommunicated by Gregory IX. for his tardiness in embarking in this crusade, was denounced in the most violent language by the same pope for having thus made terms with the infidel.

Sixth Crusade. In 1244 the Kharezmians, driven from Tartary by Genghis Khan, burst into Syria, and made themselves masters of Jerusalem. This was made by Pope Innocent IV. the occasion for another crusade; and in 1248 Louis IX. (St Louis) of France headed an expedition against Egypt, which was now regarded as the key of the Holy Land. The expedition was an utter failure. Louis was defeated and taken prisoner by the sultan, and obtained his liberty only on the payment of a heavy ransom.

Seventh Crusade. This also was primarily undertaken by St. Louis, but he having died at Tunis (where he had gone in the hope of baptizing its king) in 1270, on his way to Palestine, Prince Edward of England, afterward Edward I., who had originally intended to place himself under the command of St. Louis, marched direct for Palestine, where his rank and reputation in arms gathered round him all who were willing to fight for the cross. Nothing of consequence, however, was accomplished, and Edward soon returned to England, the last of the crusaders. Acre, Antioch, and Tripoli still continued in the possession of the Christians, and were defended for some time by the Templars and other military knights; but in 1291 Acre capitulated, the other towns soon followed its example, and the knights were glad to quit the country, and disperse themselves over Europe in quest of new employment, leaving Palestine in the undisturbed possession of the Saracens.

Besides the great expeditions above enumerated, there were many others on a lesser scale. These, however, from the unimportance of their results, and the limited numbers engaged in them, do not call for special mention.

Effects of the Crusades. While we cannot help deploring the enormous expenditure of human life which the crusades occasioned, it is impossible to overlook the fact that they indirectly exercised a most beneficial influence on modern society. They secured for humanity certain advantages which it is difficult to see could have been otherwise obtained. Guizot, in his Lectures on European Civilization, endeavored to show their design and function in the destinies of Christendom. 'To the first chroniclers,' he says, 'and consequently to the first crusaders, of whom they are but the expression, Mohammedans are objects only of hatred; it is evident that those who speak of them do not know them. The historians of the later crusades speak quite differently: it is clear that they look upon them no longer as monsters; that they have to a certain extent entered into their ideas; that they have lived with them; and that relations, and even a sort of sympathy, have been established between them.' Thus the minds of both, but particularly of the crusaders, were partly delivered from those prejudices which are the offspring of ignorance. 'A step was taken toward the enfranchisement of the human mind.' Secondly, the crusaders were brought into contact with two civilizations, richer and more advanced than their own—the Greek and the Saracenic; and it is beyond all question that they were mightily struck with the wealth and comparative refinement of the East. Thirdly, the close relationship between the chief laymen of the West and the Church, occasioned by the crusades, enabled the former to inspect more narrowly the policy and motives of the papal court. The result was very disastrous to that spirit of veneration and belief on which the Church lives; and in many cases an extraordinary freedom of thought and audacity of opinion were induced, such as Europe had never before dreamed of. The immediate results of the crusades, however, were altogether to strengthen the power of the Church. Through their means the popes found an easy method of ridding themselves of refractory monarchs; and by the 'sacred' taxes levied in the name of the cross they practically rendered all the kingdoms of the West their tributaries. Fourthly, a great social change was brought about. A commerce between the East and West sprang up; the towns, the early homes of liberty in Europe, began to grow great and powerful. The crusades, indeed, 'gave maritime commerce the strongest impulse it had ever received.'

See Gibbon's History of the Decline and Fall of the Roman Empire; Milman's Latin Christianity; Hallam's History of the Middle Ages; Mills's History of the Crusades; Cox's History of the Crusades; Heeren's Essay on the Influence of the Crusades; and the great Recueil des Historiens des Croisades, issued by the Académie des Inscriptions ([illegible] vols. Paris, [illegible]). Reference may also be made to Scott's Talisman and Count Robert of Paris.

CUBA, *kū'ba*: the most w. and largest island of the West Indies, and the most important colony left to Spain, stretches in the form of a long narrow crescent, convex on the n. side, at the entrance of the gulf of Mexico, which it divides into two channels the n.w., 124 m. wide, and the s.w., 97½ m. at its narrowest part. C. is 759 m. long from Cape Maysi on the e. to Cape Antonio on the w., with a breadth varying from 27 m. to 90 m., a coast line of 1,976 m., and an area of about 36,000 sq. m., or, including adjacent islands (of which the Isle of Pines is the largest) and bays, 46,419 sq. m. Only about one-third of the coast-line is accessible to vessels, the remainder being beset by reefs and banks. The shores, low and flat, are liable to inundations, but there are numerous excellent havens. A watershed, running lengthwise through the island, rises into mountainous heights only in the s.e., where are the Sierra de Maestra shooting up in the Pico de Tarquino to 8,400 ft., and the Sierra del Cobre (copper). The mountains, composed of granite overlaid with calcareous rocks, and containing minerals, especially copper and iron, are clothed in almost perennial verdure, wooded to the summits. Carboniferous strata appear in the w., schistose rocks on the n. coast. The limestone rocks abound in caverns, with magnificent stalactites. Mineral waters are plentiful. The *rivers*, running n. and s., are navigable for only a few miles by small boats, but are very serviceable for irrigation of the plantations, and supply excellent drinking water. The climate, more temperate than in the other West Indian islands, is salubrious in the elevated interior, but the coasts are the haunt of fever and ague. No month of the year is free from rain, the greatest rainfall being in May, June, and July. Earthquakes are frequent in the e. Hurricanes, less frequent than in Jamaica, sometimes cause widespread desolation. A hurricane in 1846 demolished 1,872 houses, and sank 216 vessels.

The soil of C. is eminently fertile, a large part still covered with virgin forest containing magnificent mahogany, cedar, ebony, ironwood, dyewoods, and pine. The vegetation of C. also includes lignum vitæ, tamarind, palms, ferns, lianas, etc. Among the cultivated products are sugar, tobacco, coffee, cacao, rice, maize, cotton, esculent roots, and tropical fruits. Among the animals are a species of tail-less rat peculiar to C., great abundance of birds, including the mocking bird, a species of vulture (valuable as a scavenger), woodpecker, partridge, flamingo, albatross. Of noxious animals there are the crocodile, scorpion, and mosquitoes. The rivers and seas are well stocked with fish, the turtle abounding in the shallows and sandy places of the beach.

Sugar, for which soil and climate are peculiarly favorable, has long been the chief product of C., though it has for some time been suffering from the low prices. The total production of sugar in 1887 was 626,420 tons; in 1888, 656,719 tons. About nine-tenths of the sugar, and nearly all the molasses, is exported to the United States. Of tobacco of excellent quality, the yield is about 300,000 bales annually. In 1886 the export of tobacco was 181,353 bales, besides 187,941,000 cigars. The mining industry of C. has as yet received little attention. The 'Juragua Iron Co.' formed in 1883, exported to the United States in 1884 22,000 tons of iron ore; and in 1886, 110,000 tons. In 1888 according to a British consular report, this export had risen to 30,000 tons a month. The ore contains 60 per cent. of pure metal. There are some 1,600 sugar plantations in C., 8,500 tobacco plantations, and 500 coffee plantations. The total imports into C. in 1889 are estimated at $50,-000,000, and the exports at $80,000,000.

According to De las Peñas, author of the large map of the island (Havana, 1881), the population in [illegible] amounted to about 1,631,687, of whom 65 per cent. are white, 40,000 coolies and other Asiatics, while there were 445,000 negroes and mulattoes, of whom [illegible] were free. In C. there are about 1,000 m. of rw. and 2,810 of telegraph wire. The principal towns, Havana (q.v.), the capital, with [illegible] inhabitants, Mantanzas, Puerto Principe, Santiago, Nuevitas, and Cienfuegos are united by railway. Havana, with magnificent harbor, has a royal university; and Santiago has a gymnasium and a seminary.

Judicially the island is divided into [illegible] districts, over each of which is an 'alcalde mayor' or judge having under him local judges. The superior tribunal at Havana, the Real Audiencia, is also a council of state which the captain-general consults in all difficult matters of administration. The captain-general, holding office for three to five years with a fixed salary of [illegible] per annum, is at once highest military and civil commander. There are [illegible] political districts, each of which has its ayuntamiento or town council. The established religion is Catholic, and the ecclesiastical government consists of the archbishopric of C. and the bishopric of Havana. All state offices, from the highest to the lowest, are held by Spaniards from Spain.

Cuba, spoken of as the 'Queen of the Antilles', was first discovered by Columbus in 1492, the discoverer calling it 'the most beautiful land that eyes ever beheld.' It was first settled by Spaniards at Baracoa in 1511. Havana, first settled in 1519, was reduced to ashes by the French in 1538, and again in 1554. For about one and a half centuries C. was in constant danger from French, English, Dutch, and West Indian filibusters. In 1762 the English under Lord Albemarle (q.v.) took Havana, which, however, was by the treaty of Paris next year restored to Spain. Hitherto the whole Spanish trade with the colonies had been in the hands of a single privileged company. During the 10 months' English occupation, Havana, open to free trade, showed in its port, instead of 10 to 12 ships yearly, as formerly, more than 1,000, and agriculture made rapid progress. In 1818 C. was opened to the trade and shipping of all the world, and for some years reached a prosperity surpassing that of the palmiest days of any other West Indian colony. In 1848 and subsequently proposals have been made in the United States for the acquisition from Spain of this fertile and happily situated island. The American war destroying for the time the production of sugar in the s. states, C. came in for the inheritance of the sugar industry. The Spanish revolution of 1868 called forth a revolutionary movement in C. which was not suppressed till 1878, leaving C. with its resources in large part destroyed, and saddled with a heavy burden of debt. In 1870 the Madrid ministry passed a law, which, however, remained a dead letter, freeing every slave at the age of 60, and all the future offspring of slaves. A law for the gradual abolition of slavery was passed by the Spanish cortes in 1879, and a law passed in 1886 abolished slavery absolutely.

By the terms of the reciprocity treaty between the United States of America and Spain, proclaimed 1891, July 31, and in force 1891, Sept. 1, the following classes of articles were to be admitted into C. and Porto Rico *free of duty*: Salted, smoked, pickled meats, and those preserved in cans or lard, animal greases, fish and shell-fish, alive, pickled, smoked, dried or canned, oats, barley, rye, buckwheat, and their flours; alimentary products of corn other than corn meal, cotton seed oil, or meal cake; hay and straw for forage; all fruits except raisins; vegetables, and garden products. Resins, wood of all kinds, in logs, joists, rafters, floorboards, masts, etc., etc., wooden boxes (except cedar), cooperage woods, doors, windows, and shutters unpainted, ordinary wagons, sewing machines, and petroleum. On and after 1892 July 1, the free list will include building stones, mineral waters, tiles, gold and silver coin, iron, wrought and raw, cotton, animal greases, books, woods, agricultural machinery, construction materials for public works, meats, vegetables, trees, plants, etc. Schedule B admits corn and corn meal at 25 cents per 100 kilos., wheat at 30 cents per 100 kilos., and wheat flour at $1 per 100 kilos.; also tram-cars, etc., at 1 per cent. ad val.

Schedule C admits at a 50 per cent. reduction wrought marble, glass and crystal wares, iron, wrought, polished and porcelain coated, small hardware, preserved alimentary substances, rubber, tarpaulins, and rice.

Schedule D admits at a 25 per cent. reduction petroleum, cotton goods, rope and yarn, soap, medicines, perfumery, leather goods, watches and clocks, fine carriages, etc., etc.

See Pearl of the Antilles, by A. Gallenga (Lond., 1873), and by W. Goodman (1873); Die Wirthschaftliche Lage Cubas, by De Larrinaga (Leip. 1885); Cuba with Pen and Pencil, by Sam. Hazard (Lond., 1873); Cuba Past and Present, by M. M. Ballou (Boston, 1885); The West Indies, by C. H. Eden (Lond., 1880).

CYPRUS, *sī'prŭs* (Gr. *Kypros*, Turk. *Kibris*, Fr. *Chypre*, Ital. *Cipro*), is situated in the n.e. of the e. basin of the Mediterranean, s. of Asia Minor, and w. of Syria, between 34° 30' and 35° 41' n. lat., and 32° 15' and 34° 35' e. long. The distance from Cape St Andreas, the n.e. point of the island, to the mainland of Syria, near Latakia, is about 52 geographical miles, while Cape Kormakiti, on the n. of the island, is only 36 m. from Cape Anamur in Cilicia. Larnaca is nearly 1,000 m. e. of Malta and little over 200 from Port Said and the entrance to the Suez canal, while Limassol is somewhat nearer to both. The familiar shape of the island was likened by the ancient Greeks to that of a deer's skin, of which the long and narrow peninsula of Carpas represented the tail. The extreme length is about 140 m., of which 40 consist of this Carpas peninsula; the extreme breadth is 60 m., and the area is 3,707 sq. m., or rather more than twice that of Long Island. There are two principal ranges of mountains, which form the most remarkable natural feature of the country. The n. range extends from Cape St Andreas, at the extreme e. of the island, almost as far as Cape Kormakiti, some 30 m. to the w. of Kyrenia. The highest mountains of the range, Buffavento (3,240 ft.), St Hilarian (3,340), and Pentedaktylon (2,480), are situated almost immediately n. of Nicosia, and appear, owing to the extreme clearness of the atmosphere, to rise almost from the outskirts of the town, from which they are distant fully 12 m. To the s. of this range, and extending from Salamis to Morfu bay, is the great Messaorian plain, once famous for its crops of cereals. Of late years, owing to the abandonment of irrigation-works, the decay of wells, and the absence of any system of water-storage, its fertility has greatly fallen off, and in 1887, owing to a deficient rainfall, there was a scarcity almost amounting to famine. The w. range occupies the greater part of the w. and s.w. districts of C., and extends to the e. as far as the isolated peak of Santa Croce or Stavrovouni, only 12 m. to the w. of Larnaca. The highest mountain of this range is Mt. Troodos (6,352 ft.), of which one of the peaks bears the classic name of Olympus.

On the slopes of Troodos, under gigantic pine-trees, is pitched the camp where troops from Limassol spend a part of the summer months under canvas, and where the brigade of guards recruited their strength in the autumn of 1885 after their sufferings in Egypt. C. has practically no harbors; Larnaca and Limassol, the chief seaport towns, are open roadsteads, unprotected against all but n. winds, with such shallow water that steamers are obliged to anchor at a considerable distance from the shore. Moreover, a dangerous surf is raised in stormy weather, which renders landing difficult. At Kyrenia there is a little harbor, fit only for small craft and unprotected in n. winds; and in ancient times there were harbors at Salamis, at Paphos, and Famagusta. The restoration of the last would greatly increase the strategic value as well as the commercial importance of C., but so far nothing has been done.

The rivers only flow after heavy rain or the melting of the snow in the hills. There are no lakes of any importance save that of Paralimni, near Famagusta, which is noteworthy chiefly on account of the fact that whereas it becomes entirely dry in summer it abounds in fish during the winter—a phenomenon which has never been explained, but which certainly [illegible]. The chief towns are Nicosia the capital, Larnaca, and Limassol. Famagusta is a ruin; Paphos a site. Kyrenia and [illegible] are villages on the n. coast. Until 1883 the topography of C. was by no means accurately known, a state of things now put an end to by the issue of the great map of the trigonometrical survey of the island. The map, which was published in 1885, has been engraved by Messrs Stanford on a scale of one inch to the [illegible].

A census taken by order of government in 1881 showed the population to be 186,000, of whom [illegible] profess the orthodox or Greek religion, [illegible] the Mohammedan [illegible]. Dividing the population according to language, [illegible] a form of the Romaic [illegible]. The Cypriot Greek dialect is a [illegible] neither expressive nor harmonious; [illegible] Turkish [illegible], on the contrary, is remarkably pure, and is said to be the best Turkish spoken out of Stamboul.

History.—C. was [illegible] at a very early period by the Phœnicians and [illegible] the name Kypros [illegible] of Aphrodite, the Cyprian goddess, Paphian Venus), to whom C. was considered sacred, for that of the Phœnician Ashtaroth or Astarte. The ancient Cypriote syllabary was derived, according to Sayce, from the writing of the Hittites (q. v.). Early in the 6th cent. B.C. C. was conquered by the Egyption king Amasis; and a little later by Cambyses, who annexed it to Persia, 525 B.C. After the battle of Issus, C. became a part of the Macedonian empire, but on the death of Alexander it passed into the possession of the Egyptian Ptolemy. In 58 B.C. C. became a Roman province, and was administered by Cato the Younger and Cicero. The Cypriotes were one of the first Gentile peoples to embrace Christianity, and C. was visited not only by St. Paul, but by many saints of the early church. At the division of the empire C. naturally passed into the hands of the e. or Byzantine emperors, to whom it continued subject for over 700 years. In consequence of the supposed discovery by a shepherd of the body of St. Matthew and part of his gospel near Salamis, in the 4th cent., C. was constituted by the empire a separate autonomous church, and to the archbishop was accorded the privilege, enjoyed only by the emperor himself, of signing his name in red ink, a privilege which has been uninterruptedly exercised to the present day. In 646 C. was taken by the Saracens under Othman, and again in 802 by Haroun al Rashid; but on each occasion it remained but a very short period under the sway of the Moslem. In 1195 Richard I., on his way to Syria for the third crusade, took the island from Isaac Comnenus, the representative or duke of the e. emperor, and gave it to Guy de Lusignan, king of Jerusalem, in whose family the sovereignty of the island remained until 1487, when it passed under the dominion of the republic of Venice. In 1570 the Turks under Selim II. invaded C., and after long sieges and terrible massacres at Famagusta and Nicosia, took possession of the country and ruled it for 300 years. On 1878, July 10, C., was occupied by the British, under the provision of the celebrated Turkish convention, by the terms of which the island is to be occupied by Great Britain until Batoum, Kars, and Erzeroum are restored to Turkey by Russia, England paying $448,364 a year to the Porte as quit rent. By the subsequent arrangement this tribute is paid by C. to England, and England pays one half to France, or rather to the French bondholders of the 1854 Turkish loan. The surplus revenue of C. has never reached $440,300, and the deficit is made up by an annual grant by parliament. In 1880 the administration of C. was transferred from the foreign to the colonial office, and in 1882 a constitution, with an elected council, etc., was granted to C. by Lord Kimberley.

Although under the convention the English maintain the Mohammedan religious tribunals, an admirable judicial system has lately been introduced, and English barrister judges presides over courts which are highly appreciated by the people. The fiscal system, however, is well-nigh unreformed and is most unsatisfactory, as is the system of land tenures. The Eastern Telegraph company have stations throughout the island; rate to England, 30 cts. per word. Postal communication with England is very slow and unsatisfactory; within the island it is efficient. The police, [illegible] horse and 460 foot, under English officers, is an admirable force. Half a regiment of English infantry is quartered at Polymedia camp, 4 miles n. of Limassol. There is no artillery in the island. The Cypriotes are peaceable, orderly, and easily ruled. Englishmen, almost exclusively officials, are popular. Few immigrants of any nation have been attracted to the country.

Cyprus produces wheat, barley, cotton, silk, flax, tobacco, carobs, madder, wool, gypsum, oranges, pomegranates, sponges, gum mastic, and immense quantities of wine. Carobs, or locust beans, are perhaps the most important export, the value in 1886 being [illegible], and in 1887, [illegible]. Next in importance comes wine, of which 3,500,000 gals., worth, say, [illegible], was produced in 1886, as well as 200,000 gals of spirits), and [illegible] exported; next cotton, about $140,000. The export of wheat fell from [illegible] in 1886 to only [illegible] in 1887, though the amount grown in the country was in the latter year of the value of over $1,000,000. Barley is grown in very large quantities for home consumption, both as grain for horses and cattle and as spring fodder in a green state in place of grass, of which little grows in the island. The export of madder has entirely ceased since the introduction of aniline dyes. Wool and silk cocoons are each exported to the extent of about [illegible] a year; but a good deal of both is spun and woven in the country. The total value of all exports was in 1886 [illegible], in 1887, [illegible]; but only about [illegible] worth, or [illegible] per cent. of the whole, was shipped to Great Britain, in consequence of the want of good communication between England and Cyprus.

CYPRUS.—3.

Cyprus was once celebrated for its copper mines, which were worked by the Phenicians and Romans; indeed the word copper is derived from the name of the island. At the present day a concession granted to Messrs. Knowles and Foster to mine copper at Limni, in the extreme w. of C., is being worked by a company. Gypsum or plaster of paris is manufactured at Larnaca in large quantities and exported chiefly to Alexandria. Salt was produced, under the Turks, to the value of $200,000 a year, by evaporation at the salines, near Larnaca, whence that town is sometimes called Salinas. At present, owing to prohibitive duties in the neighboring countries, no salt is exported and only a very small amount for island consumption is made by the British authorities. C. imports (to the value in 1887 of $1,780,000) wheat, barley, olive-oil, sugar, textile fabrics, iron and copper goods, rice, dried fish, coal, timber, cotton yarn and piece goods, tobacco, petroleum and goats.

The revenue in 1887 amounted to about $935,000, of which about $150,000 was produced by customs, and $125,000 by excise, while of the remainder, some $150,000 was derived from land tax, and over $400,000 from the tithe on produce, an oppressive, antiquated, and expensive form of taxation. The tithe on grapes was abolished in 1884. The expenditure in the island, curtailed from year to year since the occupation, amounted in 1887 to $550,000, leaving a surplus of about $385,000 which was sent to England as "tribute." The revenue for 1890 was $846,320, and the expenditure $515,739, leaving a surplus of $330,581. The climate of C. has been unduly vilified. When the English troops landed in the hot autumn of 1878 they were encamped in malarious situations and kept without appropriate shelter, food, or occupation, and it is true that most of them sickened and that many died. But for people who live regular lives and take reasonable precautions the climate of C. is not only healthy but very pleasant. The death rate is low. Ophthalmia and intermittent fever of a mild type are the commonest forms of disease. Throat, chest, and lung complaints are exceedingly rare, but leprosy is not uncommon. The people are healthy and well grown; the men, as a rule, handsome, the women rarely so.

The flora and fauna are with few exceptions the same as those of the neighboring coasts of Syria and Asia Minor. Among wild animals the mouflon or C. sheep is the most interesting, but is becoming very scarce. Mules of peculiar excellence are bred in C. and command large prices. Goats are among the pests of the island. The forests (for which C. was once famous) have well nigh disappeared, and the climate and fertility of the country have greatly suffered in consequence. Nothing is being done to reafforest the island, and the flocks of goats prevent any natural growth of trees on the mountains, by biting off the tops of the young shoots as fast as they appear. A still greater scourge has commanded the attention of the authorities, and the locusts are now almost exterminated. The work of destruction has been thoroughly as well as economically performed (especially 1883-4), upon a system invented by a C. gentleman, Mr. Richard Mattei, C.M.G.

The English have done little in the way of road making in C. Limassol was still in 1888 unconnected by road with Nicosia, the capital, a distance of about 50 m. The old Turkish road from Nicosia to the sea coast at Larnaca has been repaired and is now in excellent order, but it is still the only road from one district town in the island to another adapted for wheel traffic in all weathers. Wheeled conveyances are accordingly rare, and most traffic is carried on the backs of camels, mules, and donkeys. Travelers ride mules and ponies. See works on C. published since 1878 by Cesnola, Lang, Hepworth Dixon, Sir S. Baker, Mrs. Scott Stevenson; articles in Blackwood and National Review, 1888, Mar.; Blackwood, "Affairs and Finance of C.," 1888, Sept. The best authority on the antiquities of C. is vol. iii. of the great work, L'Art et l'Antiquité en Orient, by Perrot and Chipiez (Eng. trans. 1885).

DAHOMEY.

DAHOMEY, *dâ-hō'mā*: a kingdom of western Africa, extending inland from the Slave coast, in about 6° 15′ – 7° 30′ n. lat., and 1° 30′—2° 30′ e. long. Its limits, however, are not clearly defined, and it is only certain that their extent has been greatly overestimated; the seaboard is confined to a district of 35 miles, between Cotonu and Mt. Pulley, and elsewhere the kingdom is encircled by tribes either subjugated or in active hostility. The boundaries of D. and Ashanti do not meet to the n. of the Avon lagoon, as shown on some maps. The long lagoon, which, shut in from the ocean by a protecting bank of sand, affords an easy route along nearly the whole of this coast, extends in D., from its w. frontier almost to the Denham lagoon, in the e. About midway is the port of Whydah, whence a road extends inland to Abomey, a distance of 65 miles. Dense forests and dismal swamps cover nearly two thirds of this distance, but from the Great Swamp of Agrimé vast undulating plains rise for many miles, in the direction of the Kong mountains. The Avon and Denham lagoons receive the rivers of the country, none of which are very important. The soil is a rich, red-colored clay, and is extremely fertile. Groves of oil palms encircle each town, and palm oil is made in large quantities. Maize, beans, and peas, as well as cassava, yams, sweet potatoes, limes, oranges, pineapples, and other tropical fruits, grow in splendid luxuriance; cotton, sugar, and spices of all kinds are also grown, and sheep, goats, swine, and poultry are raised, though not in large numbers. Cotton cloth is made, and weapons and tools are forged from native iron.

The people are negroes, of the Ewe group, generally of small stature, but very robust and active. They are sociable, equally fond of dancing and of rum, but warlike and prone to theft. The Dahoman kingdom dates from the beginning of the 18th cent., and reached its zenith under Gezo, who ruled from about 1818 to 1858. Since then its power has declined, and even its population has fallen off; but little reliance can be placed on the estimates of the numbers, which range from 150,000 to 900,000, the former number being probably most correct. The army may be taken at 10,000 men; the Amazons (devoted to celibacy), who are distinguished for their bravery and ferocity, may perhaps be limited to 1,000. Fetich worship prevails, taking the form of serpent worship along the coast; a temple with over 100 of these sacred snakes exists at Whydah. The king is the most absolute of despots. Wholesale murder is one of the chief features in religious and state ceremonies; but, according to Sir Richard Burton, who visited D. in 1863, the number of the victims has been greatly exaggerated and they are principally foreign captives. Still, as many as 500 human victims have been sacrificed at one of the grand 'customs' which take place every Oct. The revenue formerly depended greatly upon the sale of slaves; but the vigilance of the cruisers employed to prevent the traffic has ruined the trade. Hence the monster slave hunts which periodically took place are a thing of the past. In 1876 the coast of D. was placed under a strict blockade by Great Britain, on account of an outrage on a British subject, for which the king of D. refused satisfaction. Last year the Dahomans defied the power of France, and, as a result, were severely defeated, the Amazons especially having been more than decimated. It is probable that France will insist upon and obtain more and more control over Dahomey.

Abomey, the capital, stands on a rolling plain, nearly surrounded by marshes. It is about eight miles in circumference, and is surrounded by a deep ditch and clay walls pierced by six gates. There are three palaces belonging to the king here, several large squares, and a number of farms, which are cultivated within the city. Population about 30,000. Whydah has a population of about 12,000; and Cana, where is the king's country residence, eight miles s.e. of Abomey by a good road, about 7,000. See Burton's Mission to Gelele, King of Dahomey (new ed. 1893); Skertchly, Dahomey as It Is (1874); and Bouche, La Côte des Esclaves et le Dahomey (Paris, 1885).

DENMARK.—1

DENMARK, *dĕn′-mârk* (Dan. Danmark), the smallest of the three Scandinavian kingdoms, consists of the peninsula of Jutland and a group of islands in the Baltic, and is situated between 54° 33′ and 57° 45′ n. lat., and 8° 4′ and 12° 34′ e. long., excepting the small island of Bornholm, which lies in 15° 10′ e. long. D. is bounded on the n. by the Skagerrak; on the e. by the Cattegat, the Sound, and the Baltic; on the s. by the Baltic, Little Belt, and Sleswick; and on the w. by the North Sea. The area of D. proper is a little less, the population a little more, than half that of Scotland. The population of D. proper in 1870 was 1,784,741; in 1880 (including the Faröe Islands) it was estimated at 2,108,000. In 1887 the population of Copenhagen had reached 286,900. In 1880 there were five towns in D., besides the capital, with over 10,000 inhabitants, viz., Aarhuus (24,831), Odense (20,804), Aalborg (14,152), Randers (13,457), and Horsens (12,652).

The following table gives the main divisions of the kingdom, along with its dependencies:

	Area in Eng. sq. miles.	*Population in 1880.*
Denmark Proper, comprising the islands of Zealand, Fünen, Laaland, Falster, etc., and the peninsula of Jutland	14,731	1,969,039
The Faröe Islands	513	11,220
Iceland	39,756	72,445
Greenland (region free from ice)	33,885	(1885) 9,914
Danish W. I. Islands (St. Croix, St. Thomas, and St. John)	118	33,763
	89,003	2,096,381

Except in Bornholm (q.v.), the surface of D. is very similar in every part of the kingdom, and is uniformly low, reaching its highest point in Eiers Bavnehöj, in south-east Jutland, which is only 564 feet above sea-level. The country presents little variety, except in its low isolated hills, but does not leave an impression of monotony; in the islands and in the south-east of Jutland the landscape is broken by noble forests, green meadows, and fertile fields; and even in the west and north of the mainland the wide stretches of moorland are clothed with heather, and have a solemn beauty of their own. The coast seldom rises even to low cliffs; generally it is flat, skirted by sand-ridges and shallow lagoons, especially along the west side, where the dunes cover an area of nearly 225 sq.m. The east coast is much indented by bays, useful for navigation and valuable for their fisheries, and here and in the islands are many good harbors. Both the continental portion and the islands are penetrated deeply by numerous fiords, the largest being Limfjord, which intersects Jutland, and has insulated the northern extremity of the peninsula since 1825, when it broke through the narrow isthmus which had separated it from the North Sea. There are about seventy lighthouses along the shores of D., and seven lightships (see Sound). From its formation the kingdom can have no rivers properly so called; its streams, called Aa, are mostly large brooks. There are several important canals, however, including in Jutland works for the canalization of the Guden Aa (its largest stream) and of the Limfjord; and lakes abound in all parts of the kingdom, the most considerable being found in Zealand. The centre and west of Jutland is nearly bare of wood, but in the other parts of the peninsula the forests cover about [illegible] acres, and in the islands over [illegible] acres. The beech, which flourishes more luxuriantly in D. than in any other land, is almost universally predominant, although three centuries ago the oak, now comparatively rare, was the characteristic Danish tree. Peat, which is got in abundance from the bogs, brown coal or lignite, and seaweed generally take the place of wood as fuel. In minerals D. is poor. Porcelain clay and some coal are found in Bornholm, and fuller's earth, potter's clay, saltpetre, chalk, and a good [illegible] [illegible] in several parts of the kingdom, while some amber is [illegible] on the west coast of Juland. The climate is modified by vicinity to the sea, and is considerably milder, and the air more humid, than in the more southern but continental Germany. Mists are frequent, as are also sea-fogs on the west coast, and rain, snow, or hail fall over the country on 150 days on an average in the year. The annual rainfall is 23 to 25 inches. Westerly winds prevail; in the spring a cold, dry wind, known as the skai, blows from the north-west, and whirls clouds of fine sand from the coast inland, frequently doing irreparable damage to the crops. The mean temperature ranges from 44° to 47° F. The transitions from winter to summer are rapid, and scarcely broken by the intervention of spring or of autumn. The climate is, however, not unhealthy, except in the low lying islands, such as Laaland, where the short and sudden heat of the summer occasions fevers.

The soils of Jutland are generally light, but those in the south-east part and in the islands are stronger; about 80 per cent. of the area of D. is productive, and of the remainder about one-sixth is in peat bogs. Nearly half the population is engaged in agriculture; the land for the most part is parcelled out into small holdings, and this is encouraged by the laws, which since 1849 have prohibited the throwing of small farms into large estates. In 1888, of 223,892 tenancies not 2,000 were over 144 acres in extent; there were 150,000 cotters and laborers cultivating land of from 3 to 12 acres, and the 'peasant farms,' varying from 12 to 144 acres, the majority under 50, numbered close upon 72,000. A third of the whole kingdom is arable, while over two fifths is in meadow, pasture, or fallow land. Nearly four-fifths of the arable land is under oats, barley, or rye, and little over a twenty-third part under wheat. Flax, hemp, potatoes, and leguminous plants are also raised; lucerne has been introduced, and the cultivation of the beet root has increased of late years. Barley is largely exported, but the imports of breadstuffs greatly exceed the exports. The raising of cattle is taking more and more the place of arable farming in D., and has now become one of the chief sources of wealth. Much progress has of late been made in this direction, owing to the efforts of government and of various institutions; bull and stallion shows have been promoted by royal grants, breeding farms have been similarly encouraged, and the farmers have been instructed by lectures on the various forms of cattle disease and other subjects. Dairy produce has largely developed, and the export of butter more than doubled in the years 1882-7—an increase attributed to improved methods and the co-operative dairy system, which is now very successfully worked in over 200 establishments (see DAIRY FACTORIES); in 1888 there were 2,200 centrifugal cream separators (see CREAM) in daily use. Within the same period of six years the export of bacon was quintupled, that of cheese trebled, and of horses nearly doubled, while the export of cattle and sheep slightly decreased. 15,800,000 eggs were exported in 1877, and 72,480,000 in 1887, the great development of this trade being the direct result of the efforts of a company for improving the breed of Danish fowls. In 1881 there were 1,470,078 cattle of all kinds, 347,561 horses, 1,548,613 sheep, and 527,417 swine.

In 1880, 25 per cent. of the inhabitants were returned as engaged in manufacturing industries, which, although not yet of great importance, show a marked advance within recent years. Machinery, porcelain and delft wares, and bricks are leading manufactures; beet-root sugar refineries are increasing, and the distilleries, though declining, are still numerous; there are iron works, over eighty tobacco factories, and several paper mills in Copenhagen, Silkeborg, and elsewhere, and there are many large steam corn mills. Generally, in spite of the scarcity of fuel in the country, steam mills are taking the place of the wind-mills, and though the peasants still continue to manufacture much of what they require within their own homes, linens and woolens, as well as wooden shoes, are now increasingly made in factories. The fisheries (including the lobster and oyster fisheries) and the mercantile marine employ less than three per cent. of the people.

The principal articles of export are cattle, sheep, swine, butter, hams, hides, wool, grain, fish, eggs, horses, and wooden goods. Among the imports are textile fabrics, cereals, and flour, manufactures of metal, and timber, coal, salt, coffee, sugar, and tobacco. About two-thirds of the export trade is carried on in native vessels. The total value of the imports in 1880-5 ranged from $61,355,500 in 1880 to $[illegible] in 1885, and of the exports in the same period from $43,720,422 in 1885 to $53,851,858 in 1883. The figures for 1888 are imports, $71,344,260, exports, $50,101,740. The bulk of the foreign trade is with Great Britain, Germany, and Norway and Sweden. In 1887 the mercantile marine consisted of 3,321 vessels, including 281 steamships; total tonnage, 272,500. In 1886 there were 1,214 miles of railway open, of which about 1,000 miles belonged to the state; in 1888 there were 3,674 miles of telegraph lines, of which 2,700 belonged to the state, and the rest to the railroad companies.

Elementary education is widely diffused, although in this regard D. is no longer so pre-eminent as formerly; it is compulsory for children between the ages of seven and fourteen years, poor parents paying only a nominal sum toward the government or parochial schools, of which there are about 3,000. There are training colleges for teachers, and classical and other higher education is afforded by a large number of colleges in the more important towns, with the university of Copenhagen (1,300 students) for the centre of the entire system. D. has also a theological seminary, a royal surgical college, a veterinary and agricultural school, and numerous military, technical, and commercial schools, while fifty 'people's high schools' provide instruction in agricultural subjects. There are three public libraries in Copenhagen, of which the Royal Library, with 500,000 volumes, is especially rich in oriental and Icelandic MSS. The established religion is Lutheran, to which the king must belong; but complete toleration is enjoyed in every part of the kingdom. The Reformation was introduced in 1536, when the church revenues were seized by the crown. D. is divided into seven dioceses, in which there were 1,353 clergy in 1885. There were in 1880 only 17,526 persons not belonging to the Lutheran Church, of whom 946 were Jews, 2,985 Roman Catholics, 1,363 Calvinists, 1,722 Mormons, 3,687 Baptists, and 1,036 Irvingites.

The government of D. is a constitutional monarchy, the king being assisted by a cabinet of seven ministers. The crown was elective until 1660, when the people and clergy, impelled by hatred toward the nobles, invested the sovereign (Frederick III.) with absolute power, and declared the succession to the throne hereditary. From that time the crown exercised absolute rule till 1831, when a constitution was granted. This proving unsatisfactory, was superseded in 1849 by the form of government which with some alterations, D. now enjoys. The national assembly, or Rigsdag, consists of the Folkething and Landsthing, which meet annually, the members receiving a fixed allowance during their sittings. The Landsthing is composed of sixty-six members, of whom twelve are nominated for life by the king, while the remainder are elected for a term of eight years by certain bodies representing the large taxpayers of the kingdom. The members of the Folkething, whose number is fixed by statute in the proportion of one to every 16,000 of the population, are elected for three years by practically universal suffrage. To this body all budgets must first be submitted; but in the years 1877-87, when the government had a minority in the lower house, the king was induced to give the royal ratification to successive 'provisionary' budgets, which had never received the assent of the Rigsdag. Nevertheless the financial condition of D. is sound and prosperous. The total revenue for the financial year 1885-6 was $14,160,440 and the expenditure $13,[illegible]850. The budget estimates for 1887-8 and 1888-9 show slight deficits. The total revenue for 1888 was $13,346,655 and the expenditures $14,565,756.1. The figures for 1889-90 are revenues $14,158,953.6, expenditures $14,885,581.8. Since the war of 1864, the government has maintained a comparatively large reserve fund to meet any sudden emergency. That fund stood in 1887 at $[illegible]. In 1888 the national debt was $52,067,534, or about $24 per head of the population; but as the investments of the state (in telegraphs, etc.) amount to nearly $21,250,000, this proportion is reduced to less than $14.50. The decimal system was introduced in 1875, the unit being the krone or crown, of 100 öre; the average rate of exchange is 18 kroner to the pound sterling. The Danish army in 1887 numbered 1,165 officers and 58,065 men, inclusive of the landwehr, but only a sufficient establishment for garrison purposes is maintained, and the peace strength was 1890 844 officers and 16,318 men. The total war strength is about 60,000 men, to which an extra reserve of 14,000 could be added in emergency. Conscription prevails, and the period of [illegible] service is divided into eight years in the line and reserve and eight in the extra reserve. The navy is recruited by levies from the coast districts. The fleet was represented in 1890 by 1 sea-going armor-clad, 8 coast-defence armor-clads, 2 protected cruisers, 1 torpedo ship, 4 sea-going torpedo boats, 5 first and 10 second class torpedo boats, 20 unprotected ships, 16 troop ships, in all 67. There are building 2 protected cruisers, and 1 sea going torpedo boat. The most remarkable vessel in the Danish navy is the Tordenskjold, the largest torpedo vessel in the Baltic. It has eight inches of armor on the barbette, a protected deck, a cork belt, carries two swift torpedo launches, and tubes for firing Whitehead torpedoes, and is armed with a 14-inch Krupp breech loader, four 6 inch breech-loaders and several light and rapid fire guns. The Danish navy is manned by 1 vice-admiral, 2 rear-admirals, 15 commanders, 36 captains, 82 lieutenants, 45 ensigns, and 1,137 men. It is recruited by conscription. Besides Copenhagen (q.v.), the only fortresses are the coast defences at Helsingör (Elsinor), Fredericia Korsör, Frederikshavn, and Hals. The arsenal is at Copenhagen.

History. The early history of D. is lost in the twilight of the saga-period, out of which loom dimly the figures of its heroes, their brave deeds, and daring voyages. Within its borders the Celts had first their home, and from its shores the Angles and Saxons sailed in the 5th century to the conquest of England; while in their place the Danes from Zealand settled on the deserted lands, extending their sway as far south as the Eider. One of their earliest kings, Harald Hildetand, fell in battle against the Swedes in 695; and shortly afterward a branch of the Ynglinger occupied Jutland, where they held a footing for two centuries. One of their kings, Harald Klak, received baptism in 826 from Ansgar (q.v.); but the introduction of Christianity did not at once place any check on the long-accustomed inroads on Frankish territory, or on the piratical expeditions of the Vikings, although the country was soon torn by dissensions between the adherents of the old and new faiths. Gorm the Old, who drove the Ynglinger from the peninsula, and first united the mainland and islands under one rule, was the bitter enemy of Christianity; and although his death in 936 gave fresh vigor to the diffusion of the new faith, yet even its ultimate success was only insured by the zealous support it received from Gorm's grandson, Canute (q.v.). On his death in 1035 the three kingdoms of his Anglo-Scandinavian empire separated, and his sister's son, Svend Estridsen (1047-76), ascended the throne of D., founding a princely line that flourished 400 years. Internal dissensions and external wars weakened the country, and the introduction of a feudal system raised up a powerful nobility, and ground down the once free people to a condition of serfdom. Waldemar I. (1157-82) added Rügen to the other Wendish districts of Mecklenburg and Pomerania, and extended his sway over Norway also. Under Waldemar II. the conquests of D. extended so far into German and Wendish lands, that the Baltic was little more than an inland Danish sea. The jealousy of the German princes and the treachery of his vassals combined to rob him, however, of these brilliant conquests, and his death in 1241 was followed by a century of anarchy and inglorious decadence of the authority of the crown, during which the kingdom was brought to the brink of annihilation. Under his great grandson, Waldemar IV., D. made a transient recovery of the conquests of the older Waldemars, rousing the jealousy of the Hanseatic League (q.v.), and the national laws were codified. From his death in 1375 till 1412, his daughter, the great Margaret, widow of Hakon VI. of Norway ruled not only that country and D., but in course of time Sweden also, with so light yet firm a hand that for once in the course of their history the three rival Scandinavian kingdoms were content to act in harmony. Margaret's successor, Eric, the son of her niece, for whose sake she had striven to give permanence, by the act known as the Union of Calmar (1397), to the amalgamation of the three sovereignties into one, undid her glorious work with fatal rapidity, lost the allegiance and the crowns of his triple kingdom, and ended his disastrous existence in misery and obscurity. After the short reign of his nephew Christopher of Bavaria (1440-48), the Danes exerted their ancient right of election to the throne, and chose for their king Christian of Oldenburg, a descendant of the old royal family through his maternal ancestress, Rikissa, the great grand daughter of Waldemar II. Christian I. (1448-81), who was at the same time elected duke of Sleswick and Holstein, was the founder of the Oldenburg line, which continued unbroken till the death of Frederick VII. in 1863. His reign was followed by half a century of international struggles in Scandinavia. The insane tyranny of Christian II. (q.v.), cost that monarch his throne and freedom, the Danes chose his uncle Frederick I. to be their king, while Sweden was forever separated from D., and rose under the Vasas (see GUSTAVUS I.) to be a powerful state.

Under Christian III. (1536–59), the Reformation was established in D. Christian IV. (q.v.), after his brief share in the Thirty Years' War, proved one of the ablest of all the Danish rulers. His liberal and wise policy was, however, cramped in every direction by the arrogant nobles, to whose treasonable supineness D. owes the reverses by which she lost (1658) all the possessions she had hitherto retained in Sweden; and with the relinquishment of these, and consequently of the undivided control of the passage of the Sound, the country's former international importance came finally to an end. The national disgraces and abasement which followed, led in 1660, under Christian's son, Frederick III., to the rising of the people against the nobles, and their surrender into the hands of the king of the supreme power. For the next hundred years, chiefly marked by wars with Sweden, the peasantry were kept in serfdom, and the middle classes depressed; but by the end of the 18th century the peasants had been gradually emancipated, while many improvements had been effected in the mode of administering the laws, and the Danish kings, although autocrats, exercised a mild rule. The miseries of the reign of Frederick VI., who governed as regent from 1784, brought the country to the verge of ruin. D. having joined Russia in a compact of the northern powers hostile to England, a fleet was sent into the Baltic, and considerable injuries were inflicted by an attack on Copenhagen in 1801, under Parker and Nelson. From this the country rallied; but in 1807 the British government, suspicious of an intention on the regent's part to violate his neutrality and take sides with Napoleon, demanded the surrender of the entire Danish navy, to be restored at the conclusion of peace. A refusal was followed by the bombardment of Copenhagen in 1807, September, and the fleet was given up; but this treatment drove D. into Napoleon's arms, and with him the kingdom was obliged to co-operate until the close of 1813.

By the congress of Vienna, D. was compelled to cede Norway to Sweden. From this period a spirit of discontent grew up in the duchies, degenerating into natural animosity between the Danish and German population, which led to an open rupture with D. in 1848, immediately after the accession of Frederick VII. (For the whole question, see SLESWICK-HOLSTEIN.) After alternate hostilities and armistices, the war was virtually concluded in 1850, by the victory of the Danes at Idsted; but in 1863 the quarrel was renewed. On the death of Frederick in that year, Prince Christian of Sleswick-Holstein-Glucksborg ascended the throne under the title of Christian IX., in conformity with the act known as the Treaty of London of 1852, by which the succession to the Danish crown had been settled on him and his descendants by his wife, Princess Louise of Hesse-Cassel, niece of King Christian VIII. of D. A pretender, backed by German influence and help, at once started up in the person of the eldest son of the duke of Augustenborg, who assumed the title of Duke Frederick VIII. of Sleswick-Holstein; but his cause was speedily merged and lost sight of by Prussia and Austria in their direct aim of incorporating the duchies with the German Confederation. D., unaided by England and France, allies on whose support she had relied, was forced to go single-handed into the unequal contest. After a brave but utterly futile attempt at resistance, the Danes found themselves forced to submit to the terms dictated by their powerful foes, and resign not only Lauenburg and Holstein, but the ancient crown appanage of Sleswick. By the peace of Vienna, 1864, the Danish king bound himself to abide by the decision which Prussia and Austria should adopt in regard to the destiny of the severed Danish provinces. The dissensions between these two great powers, which led to the Austro-Prussian war of 1866, resulted in the triumph of Prussia, and since then the duchies have remained an integral part of that state. Since the war D., although reduced to the narrow limits of the islands and Jutland, has recovered from its fall, and has greatly prospered in spite of the spread of socialistic opinions, and the political dissensions that have ranged the government and Landsthing, supported by the press of the capital, against the Folkething and majority of the people. For it may be emphatically said that the most noticeable feature of Danish politics since the war has been the protracted and disastrous conflicts between the Crown, as represented by the Ministry, and the Folkething, or house of representatives. As a consequence there has been for twenty years no legal budget, the supreme court has been packed in the interests of the government party, and has monotonously given decisions on constitutional points opposed to the general convictions of the nation. Friction has been set up between the Folkething and Landsthing, or upper house, even necessary measures have been rejected, almost all legislation has been hampered, and even the natural disposition of the Danes, slow to wrath as it is, has begun to glow with the fire of a sullen irritation, which to a wise Ministry would be ominous of danger. Meanwhile socialism is spreading and is by no means timid, and stubborn and disastrous strikes have disorganized some of the most important industries of the nation.

For the geography and statistics, the best Danish works are those of Erslev, Trap, Grove, Falbe-Hansen, O. Nielsen, and Scharling; see also Both, Kongeriget Danmark, en historisk topografisk Beskrivelse (2d ed., 2 vols., Copenhagen, 1882-5), and Miss E. C. Ottés' Denmark and Iceland (Lond., 1881). For the history, works by Paludan-Müller, Barfod, Fabricius, Allen, and Thorsöe may be consulted, and, in English, Miss Ottés' Scandinavian History (1875), in Macmillan's series.

Danish Language and Literature. The Danish language has sprung from the south-eastern or Danish-Swedish branch of the *dönsk tunga* (or *lingua danica*), which was the common name by which the language of all the Scandinavians was designated in the middle ages by the southern races of the Teutonic stock. From the 11th to the 13th century the Danish-Swedish branch of the Old Scandinavian became more and more markedly distinct from the Norwegian-Icelandic branch through its replacing the old diphthongs with single long vowels and dropping the initial *h* before *l*, *n*, and *r*; while the latter became characterized by a further modification of the *a* sound by the loss of *v* before *r*, and by a series of contractions of consonants. In the provincial laws of the 12th and 13th centuries, which (after the Runic monuments) are the earliest specimens of this Danish-Swedish language, there are three dialects—that of Skaane (the southmost province of Sweden) and those of Zealand and Jutland, the first of which is nearest the old language, while the last two have deviated from it by dropping the final consonants from the old inflexional endings and changing their vowels *a*, *i*, *u* to a less distinct *e* or *æ*, retaining, however, the hard mutes *p*, *k*, *t* after vowels, as on the whole is still the case in Swedish and spoken Norwegian. The dialect of Zealand in the 14th and 15th centuries forms the foundation of modern Danish. The original vowels in almost all endings are there replaced by half vowels, and the dental aspirate *þ* by *t* or *d*; *p*, *k*, *t*, when following long vowels, are changed to *b*, *g*, *d*; masculine and feminine are merged in one common gender; nouns have no other case-ending than the possessive *s* for both numbers; verbs cease to indicate person (except in the imperative), and the singular number begins to supersede the plural, as it does everywhere in the spoken language from the 16th century. Danish, like Swedish, retains the suffixed definite article, which is characteristic of the Scandinavian languages. Its form is *-et* in the neuter, *-en* in the common gender, and *-ne* in the plural of both.

The influence of the Hanseatic League and the Oldenburg dynasty (from 1448) brought in a great number of Low German words, especially relating to navigation and trade, while that of the order of St. Bridget contributed a considerable Swedish element. In the first half of the 16th century the Danish language was chiefly used by religious writers, and the translation of the Bible (1550) is the first important monument of modern Danish. After this period Latin became once more the language of learning and culture, and for a century and a half there was no Danish writer of eminence. The influence of French was predominant in the 17th century, and that of High German, which had been constant since the Reformation, culminating in the 18th century under the Struensee administration, when it was the language of government and public instruction. The result is that Danish is indebted to German for fully one-third of its vocabulary. It was not till Holberg that the Danish written language began to be enriched from the stores of native expression in the spoken tongue.

From the end of the 18th century revived study of Old Scandinavian and the development of a national poetic literature unfolded the language in a hitherto unsuspected richness and fulness, and since that time Danish prose has to a considerable extent worked itself out of its poverty and dependence. Danish is the softest of the Scandinavian languages, though less euphonious than Swedish. It is the language of the educated class in Norway, where it is considerably augmented from the native dialect, and is spoken with a somewhat harder pronunciation. The best histories of the language are by Petersen (2 vols., Copenhagen, 1829-30) and Molbech (*ib.* 1846); grammars by Rask (2d ed., Lond., 1846), Lökke, Munch, Lingby, Jessen, and Möbius (Kiel, 1871); and dictionaries by the Danish Academy (Copenhagen, 1793-1881) and Molbech (2d ed., 2 vols., *ib.* 1859), who also produced a Dansk-Dialekt Lexikon (*ib.* 1841), and a Dansk Glossarium (*ib.*, 1853-66) for antiquated words. Ferrall, Repp, and Rosing's Danish and English Dictionary, in 2 parts (4th ed., Copenhagen, 1873), is the best for English students.

Literature. After the Danish dialect had gradually separated itself from the Old Scandinavian as a softer and simpler speech, with a strong infusion of German ingredients, it was little used in writing down to the time of the Reformation. Saxo Grammaticus (*i.e.*, 'the learned'), in the second half of the 12th century wrote in Latin his Historia Danica, the only literary production of mediæval D. that retains any interest. The earliest writings in Danish are the church laws of Skaane (1162) and Zealand (1170), and the civil laws of Skaane (1160), Zealand (1170), and Jutland (1241); and after these a number of chronicles, partly in verse, of which the best known is the Rimkrönike, which was the first Danish book printed (in 1495). It is essentially an abridgment of Saxo. The famous Danish ballads called Kæmpeviser ('hero songs'), some of which are said to belong to the latter part of the 11th century, were handed down orally from generation to generation, and were first collected, to the number of 100, by A. S. Vedel in 1591. In 1695 Peder Syv published a new edition with 100 more, and in 1812-14 appeared a selection of 222, edited by Abrahamson, Nyerup, and Rahbek. The most complete collection is in Svend Grundtvig's unfinished Gamle Folkeviser (5 vols., 1853-77). They are about 500 in number, and treat of the adventures of heroes, love, enchantment, spectres, and historical events. Doubtless they were sung to the dance, as is still the case in the Faroe Islands. They must have suffered much by their not being written down till the 16th and 17th centuries.

The Reformation only emancipated Danish culture from Latin to bind it fast to German, which at the death of Frederick I. in 1533 was the language of the upper classes. About that time Christian Pedersen set up a printing press at Malmö, at which he published a great number of popular books, and finally in 1550 the first complete translation of the Bible. Pedersen (1480-1554) is justly called the father of Danish literature. The hymns and translations of the Psalms by his contemporary Tausen (1494-1561), as also by Kingo (1634-1703), Vormordsen (1491-1551), and Arrebo (1587-1637), and the national history (10 vols., Copenhagen, 1595-1604), Hvitfeld (1549-1609) were well received; but the Danish language was still banished from higher society till the advent of the Norwegian Holberg (1684-1754), the founder of Danish comedy. He found D. on the point of being absorbed in Germany. 'The common people,' he says, 'had no histories but dry lists of dates; no poetry but congratulatory verses; no theology but homilies and funeral sermons; and for plays, nothing but old stories about Adam and Eve.' He wrote histories of D., of the Jews, and of the church, and the irresistible humor of his comedies and satires covered with ridicule the imitators of foreign speech and manners. What Holberg did for Danish prose another Norwegian, Tullin (1728-65), did for Danish poetry. Equally dissatisfied with the current imitations of the 17th century court poetry of France, and with the poetic reform of Klopstock (at Copenhagen from 1751) Tullin followed the guidance of the English poets Pope, Young, and Thomson, and in this was followed by most of his countrymen who were settled at Copenhagen, while the Danes clung to German models. Ewald (1743-81), an ardent disciple of Klopstock, was Denmark's first great lyric poet and tragic dramatist. His verse shows an unsurpassed mastery of form, and expressed in pure, clear, and noble language. Wessel (1742-85), by his 'tragedy,' Love without Stockings (1772), a humorous parody of the Danish imitations of the classical French drama, succeeded in laughing them off the stage. Nordahl Brun (1745-1816), preacher and poet, Claus Frimann (1746-1829), 'the Burns of the Norwegians,' Claus Fasting (1746-91), Jonas Rein (1760-1821), Jens Zetlitz (1761-1821), and others, formed themselves (1772) into a 'Norwegian Society' at Copenhagen, under the leadership of Wessel. It was the literary manifestation of the Norwegian aspiration to separate nationality, which afterward led to the foundation of the university of Christiania in 1811. From the death of Wessel in 1785 to the beginning of the present century the literature became entangled in rationalistic and political polemics, and produced little that is noteworthy. Its chief writers were P. A. Heiberg (1758-1841) and Malte Konrad Brun (1775-1826), both of whom were driven into exile in 1799-1800, the latter afterward famous as a geographer; the critic Rahbek (1760-1830); the dramatists Samsö (1759-96), and Sander (1756-1819); and the lyrist **Thaarup (1749-1812).**

The poet and humorist Baggesen (1764-1826) forms the link between the 18th century and the early part of the 19th, when Danish literature took an entirely new departure, partly owing to the study of Kant, Fichte, and Schelling, and the influence of Schelling's follower Steffens (1773-1845); partly also to the strict censorship of the press in force from the year 1799. The educated classes turned from their controversies on points of literary criticism and theology to scientific inquiry; and the people, whose national feeling had been aroused by the French Revolution, by the share of D. in the Napoleonic wars, and especially by the events of 1801 and 1807, the war with Sweden (1808), and the loss of Norway (1814), welcomed with enthusiasm the rise of a new school, led by the romantic poet Oehlenschläger (1779-1850), who was equally distinguished as a lyrical and dramatic writer, and is still regarded by many as the greatest Danish poet. Contemporary with him were the poets Schack Staffeldt (1769-1826), and Grundtvig (1783-1872), afterward more eminent as a theologian; Ingemann (1789-1862), long the most popular novelist of D.; J. L. Heiberg (1781-1860), director of the royal theatre at Copenhagen, writer of numerous vaudevilles, and of the still popular national play, Elves' Hill (1828); Hauch (1791-1872), dramatist, novelist, and critic; and Blicher (1782-1848), who in his tales of Jutland was the first worker in the field which has since been cultivated in Germany by Jeremias Gotthelf and Berthold Auerbach. Of the other novelists of this period the chief are Brosböll (b. 1820); Fru Gyllembourg-Ehrensvärd (1773-1856), mother of J. L. Heiberg; Saint-Aubain, or 'Karl Bernhard' (1798-1865), and the still more popular Winther (1796-1876), the charming poet of Danish country life. Herz (1798-1870), from the time when his Ghost Letters (1830) surprised the public with a poetic revival of the muse of Baggesen, has, now with his lyric poems, now with his tales, now in romantic and national tragedies, now in comedies and light vaudevilles, provided his countrymen with artistic and attractive works. Overskou (1798-1874) is a skilful dramatist and Hostrup (b. 1818) a popular author of comedies. All these writers are surpassed by Hans Christian Andersen (1805-75), whose wonderful stories are known throughout the civilized world. Less popular, but more profound, was the versatile writer Fr. Paludan-Müller (1809-76), who from his play, Love at Court (1832), to his great epic poem Adam Homo (1841-48) has wooed all the muses in succession. Here may be mentioned Bergsöe (b. 1835), writer of novels and popular works on scientific subjects; Goldschmidt (1819-87), editor of the influential democratic journals, The Corsair, North and South, and Home and Abroad, and afterward author of numerous romances; Holst (b. 1811), a writer of pleasing lyrics and tales; Kaalund (1818-85), with his two collections of poems, A Spring and An Autumn; the erotic and piquant and sometimes frivolous song writer Aarestrup (1800-56); and **Lembcke (b. 1815), the translator of Shakespeare.**

A great impulse was given to all branches of science from the beginning of the 19th century. The leading theologians were Grundtvig, the enthusiastic champion of the faith of his fathers against rationalism, and advocate of a union of the Scandinavian kingdoms but with the church separated from the state; Mynster (1775-1854), bishop of Zealand; Clausen (1793-1877), the disciple of Schleiermacher and theological opponent of Grundtvig; Martensen (1808-84), bishop of Zealand and author of standard works on systematic theology and ethics; and Kierkegaard (1813-55), the most original thinker of D. The chief exponents of philosophy were Sibbern (1785-1872), Nielsen (b. 1809), and Bröchner (1820-76); and in natural science the greatest names were those of Oersted (1777-1851), the discoverer of electro-magnetism, the botanist Schouw (1789-1852), the geologist and chemist Forchhammer (1794-1865), and the zoölogist and archæologist Steenstrup (b. 1813). Much has been done for the study of Scandinavian antiquity by the Sagabibliothek of Müller (1776-1834), and the researches of Finn Magnusson (1781-1847) in mythology, and of Thomsen (1788-1865) and Worsaae (1821-85) in archæology. The chief 19th century writers of national history have been Werlauff (1781-1871), Molbech (1783-1857), Allen (1811-77), Schiern (b. 1816), and F. P. Paludan Müller (1805-82); and of the history of the national literature and language, Petersen (1791-1862). In philology, Rask (1787-1831), and Madvig (1804-86) have a European fame.

About 1850 the enthusiasm for the national past, which had been excited by Oehlenschläger in D., and by Tegnér, Geijer, and others in Sweden, together with the hatred of Germany aroused by the war of 1848-50, rose to a pitch of fanaticism. 'The northern force which had controlled the world' was extolled by Ploug and others as 'the only means whereby the victory of the Cause of Humanity could be achieved.' After Ploug (b. 1813) the chief exponents of this great historic mission of the northern kingdoms were C. K. F. Molbech (1821-88), a euphonious lyrist and skilful dramatist, and translator of Dante, and Erik Bögh (b. 1822), a fertile writer of *feuilletons* and adapter of plays. A cosmopolitan reaction set in about 1870, led by Georg Brandes (b. 1842), who proved in his lectures on literature that D. was only a side-chapel in the temple of European thought and art, and that this overstrained 'Scandinavianism' was but the northern phase of the reaction from the tendencies of the 18th century, which had been experienced in England, France, and Germany many years before. Brandes withdrew to Berlin for some years from the storm of popular opposition. Not only in D., but in Norway and Sweden also, his followers are now the prevailing party. The most conspicuous of these have been Jacobsen (1847-85), the translator and adherent of Darwin, and author of Mogens (1872), and other novels; and (till in 1883 he became a Conservative) Drachmann (b. 1846). Of recent writers, the most noteworthy are Schandorph (b. 1836), who is equally happy in his sketches of the Zealand peasant and the Copenhagen snob; the versatile writer Hermann Bang (b. 1858); and the dramatist Edvard Brandes (b. 1847), brother of Georg Brandes.

Of the three Scandinavian nations, the Danes have shown the greatest aptitude for the imitative arts, and their art is comparatively the most independent. While the painters of Norway have been mostly trained at Düsseldorf, and those of Sweden at Paris, the artists of D. have been especially attracted to Rome. The sculptor Thorwaldsen (q.v.) has left a great monument of his genius in the works contained in the Thorwaldsen Museum at Copenhagen. Of later artists may be mentioned the painters Marstrand, Carl Bloch, Exner, Kroyers, Henningsen, and Otto Bache. Of music, the chief composers in the 19th century have been Hartmann, Gade, and Heise.

See Nyerup and Rahbek, Den danske Digtekunsts Historie, 4 vols. (1800-8), and Udsigt over den danske Digtekunst under Frederik V. og Christian VII. (1828); Nyerup and J. E. Kraft, Almindeligt Litteraturlexikon for Danmark, Norge og Island (Copenhagen, 1818-20); Petersen, Den danske Litteraturs Historie, 6 vols. (1853-64); Overskou, Den danske Skuepladses Historie (1859-74); G. Brandes, Ludvig Holberg og hans Tid (1884); the general treatises in Danish by Thortsen (1839; 6th ed. [illegible]), [illegible] (1831), Molbech (1839), Strøm (1871), Eriksen (Christiania, 1878), Winkel-Horn (1880), and Hansen (1884 *et seq.*), and in German by Strodtmann (1873), Wollheim de Fonseca (1874), and Winkel Horn (1880). See also a part of Edmund W. Gosse's Studies in the Literature of Northern Europe (1879).

ECUADOR.—1

ECUADOR, *ĕk-wă-dōr′*, a republic of South America, so named from its position on the equator, lies between 1° 23′ n. and 4° 45′ s. lat., and in about 75°–81° w. long. Its general outline is cuneiform; bounded on the w. by the Pacific, it is inserted like a wedge between Colombia and Peru. But its only certain limits are those defined by the ocean, where it has a seaboard of some 400 miles; most of the frontier east of the Andes has never been determined, and no two maps agree in the limits they assign to the state in this direction. In 1832, however, Colombia's claims to the plateau of Pasto were recognized, and since 1856 the same state has held the river Putumayo; the whole of the Marañon valley is occupied by Peru, and the actual possessions of E. are now separated from those of Colombia on the n.e. by the rivers Coca and Napo, while the little river Masan, a tributary of the Napo, is looked upon as marking the Peruvian frontier. Thus narrowed, the territory of the republic embraces some 100,000 sq. m., or about half the area of Spain, and barely two-fifths of that usually assigned to it; but to the state proper must be added the Galápagos islands (q.v.), which have an area of 2,940 sq. m. The population, at the census of 1885, was given at 1,004,651, of whom 204 belonged to the Galapagos; in these returns the savage and heathen Indians (*Infieles*) of the eastern province are not included, their number, though estimated at from 100,000 to 150,000, being really unknown. The principal cities are Quito, the capital (80,000 inhabitants), Guayaquil, the chief port (46,000), Cuenca (30,000), Riobamba (18,000), Latacunga (15,000), and Ambato (12,000), the last three names associated with earthquakes of unusual force; good authorities, however, question the accuracy of these returns of population.

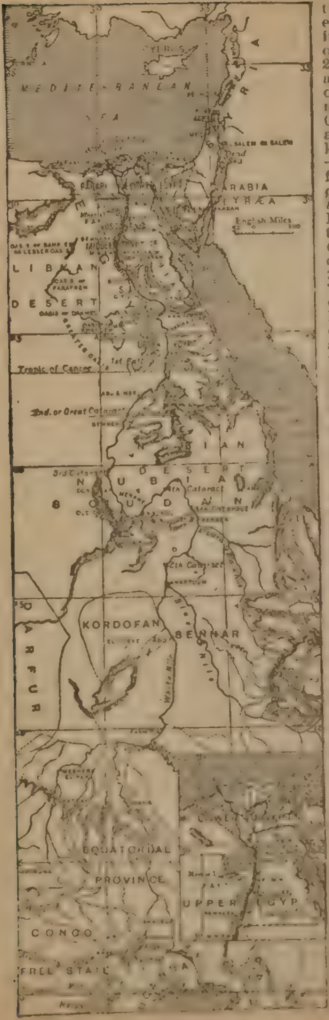
E. may be regarded as consisting of three divisions—the lowlands west of the Andes, the mountainous plateau of the interior, and the less elevated forest country to the east. Besides the main range of the Andes, forming the backbone of the country, there is an outer range extending for about forty miles, with peaks rising to 15,000 feet; from the cordillera proper numerous long spurs, attaining a height of 14,000 feet, are thrown out toward the east, between which rise great affluents of the Amazons, while the coast range possesses only short and very precipitous spurs, contributing to the comparatively unimportant Pacific streams. The plateau is cut into eight subdivisions by short and broken cross ridges; on one of these table-lands lies Quito. For the heights of the principal peaks, see ANDES; but it should be noticed that the parallel structure commonly ascribed by geographers to this section of the cordillera has hitherto had an exaggerated importance attached to it, and, as a matter of fact, scarcely exists. Only the vaguest knowledge of the country is possessed even by its own people; one authority still ascribes to the crater of Altar the only real glacier known to exist in the Ecuadorian Andes, whereas Mr Whymper in 1880 found large glaciers on the principal mountains he visited; while another describes the floods that almost certainly result from the liquefaction of the glaciers that repose upon the sides of the heated cones, as 'the rivers of mud and water which have so often been vomited from the crater.' The principal mountains of E. either are or have been volcanoes. Tungurahua (16,690 feet) broke out in 1887; Pichincha is by no means extinct; Cotopaxi (q.v.) and Sangai (17,464) are constantly active. In mineral wealth E. has been ranked among the poorest states of South America; gold, however, is obtained in the beds of the Amazonian tributaries, and the ore is mined at Zaruma, in the s.w.; silver, quicksilver, iron, copper, zinc, asphalt, and petroleum occur, as well as an inferior graphite, and fine veins of anthracite have been found in the mountains. Of the coast streams the principal are the Guayas, or Guayaquil river, and the Rio Esmeraldas; east of the Andes the most important rivers are the Napo, with its affluents the Curaray and Coca, the Tigre, and the Pastassa, all flowing into the Marañon. Col. G. E. Church, in a report (printed 1883) to the United States government, estimates that at least 2,500 miles of the river system on the Amazons' side are suitable for steamboat navigation, and probably as much more for boats, besides some 500 miles on the western side.

E. is an agricultural country. The dry winds which leave the African coast become saturated as they pass over the Atlantic and up the Amazons, and their moisture is almost ceaselessly precipitated as they approach the snowy peaks of the Andes, producing a dense growth of vegetation on the eastern foot-hills. On the other side also, where the rain clouds of the Pacific are caught, the gorges of the western spurs become very hot-houses, and most of the land is covered with darksome forest. Natural *sabanas* or open plains are, however, found on the western lowlands, such as are not met with to the east. Here, in the most prodigal luxuriance of tropical vegetation, valuable trees and plants wage endless war for existence against the stifling embraces of mosses, orchids, parasites, and creepers. With increasing elevation, the sugar-cane *haciendas* and the cacao and orange groves give place to fields of inferior wheat, barley, clover, lucerne, beans, and in some places maize and agave plants; until in the higher stretches of the sierra nothing is met with but lichens and the bare *paramo* grass. The agricultural implements employed are often of the rudest, including in the mountains wooden plows, and in the lowlands the *machete* or cutlass; American machinery, however, is imported for the sugar-mills. Sarsaparilla, balsams, caoutchouc, vegetable ivory and wax are collected, and coffee, rice, cotton, tobacco, etc., are grown, but in smaller quantities; while the trade in cinchona, for which bark the world was first indebted to the province of Loja, promises soon to be a thing of the past, owing to the reckless destruction of the trees. The coast rainy season usually extends from December to May, but on the Amazons' slope, as already noticed, it rains nearly all the year round. The plateau region and large tracts to the east are comparatively healthy, in spite of the absence of all sanitary measures in the towns and wretched villages; the valleys on the Pacific side are commonly full of disease. In the interior there is a very small thermometric range, and in temperature a perpetual spring reigns in the uplands; to which much-admired equality of climate, which renders it certain that to-morrow will be like to-day, Mr. Whymper attributes the incomparable laziness and procrastination of the Ecuadorians. The fauna is rich; the mammalia include the jaguar, puma, ounce, ocelot, deer, tapir, peccary, capybara, and several species of monkeys and bats; fish abound, both in the rivers and along the coast; and among reptilia are the boa constrictor, turtles, and alligators, which swarm in the streams, especially on the Pacific side. Chiefly, however, is E. the paradise of birds and insects. The former range from the condor to the humming bird, and include parrots, partridges, pheasants, snipe, wild turkeys, geese and ducks, herons, and pigeons, as well as the flute bird and many other song-birds; of the insects, besides butterflies innumerable, mosquitoes, scorpions, the tarantula spider, the microscopic 'red tick,' and the maddening Pium fly are met with, while a recent traveler in the sierra remarks emphatically that there 'every kind of domestic insect pest known in England exists, with the addition of further infinite varieties.' The live stock includes cattle, sheep, horses, mules, donkeys, and llamas; but cattle do not thrive in the Amazons' section, chiefly, according to Colonel Church, from the immense number of bats which bleed or otherwise irritate them.

The whites have been estimated, in round numbers, at 100,000, the mixed races at 300,000; the rest are pure Indians, with a small proportion of negroes. The whites, who are the landholders and merchants of the country, are hospitable, courteous, and generally intelligent, but extravagant and innocent of habits of industry; the half breeds are the true savages of the country, the Christianized Indians, who belong to the Quichua group, being as a class docile and contented, although the law which permits the Indian who cannot otherwise satisfy his creditor to sell himself into slavery has reduced great numbers to the unhappy condition of serfs. The uncivilized tribes inhabit the vast Provincia del Oriente, east of the Andes; their chief stocks are the independent and warlike Jivaros and Zaparos. The state form of religion, to the exclusion of every other, is the Roman Catholic, the establishment including an archbishop of Quito and six bishops; and in no country in the world have the Jesuits had such a paramount influence as in E., or employed it, on the whole, so well. There are numerous convents, monasteries, and seminaries; and in 1887 the pope sanctioned the organization of a central theological university. Education is compulsory, but still at a low ebb. Quito, however, possesses a university and an institute of sciences (1884), with three faculties, and there are affiliated universities at Azuay and Guayas, and since the restoration of the church party to power, public instruction, considering the difficulties the government have had to grapple with, has made creditable headway, 805 primary schools, attended by 60,000 pupils, in particular, having been established throughout the country. Technical schools and literary societies also have been founded. The manufactures are limited mostly to timber, coarse cloths, kerosene, ice, and the preparation of spirits from the sugar cane, and of flour or starch from the yuca or cassava root. Guayaquil is famed for its hammocks and Panamá hats, made from the fibre of the 'pita' plant (see AGAVE). Commerce is sadly handicapped by the want of roads. In 1889 only about 125 miles of railway were open, although other lines were in progress. A few steamers are in use, but around Guayaquil rafts also are as much employed to-day as in Pizarro's time; and, generally, communication is carried on by means of tracks almost impassable in the rains, and goods are conveyed by mules. East of the cordilleras, moreover, the line of route is often not marked by even bare tracks; the road must be forced through pathless forests, along the rough beds of the rivers, and over swollen streams, either bridgeless, or spanned by the frail erections that existed when Humboldt visited the country. Nevertheless, the chief towns have been connected by telegraph, and there are even telephones in Quito and several of the provinces. Hitherto the trade returns have been often incomplete, but in the five years 1882-6 the exports ranged from $3,575,760 in 1885 to $5,839,480 in 1886; in 1887 the imports were valued at over $8,245,000, the exports at over $7,275,000, nearly two thirds of the exports, of which the principal were cocoa, coffee, vegetable ivory, caoutchouc, and hides, coming through Guayaquil. The exports to Great Britain in the same year were $1,102,150, and the imports, chiefly cotton goods, $1,7[illegible], the average values for the five years preceding being, respectively, $1,049,710 and $1,140,720; the trade with the United States is about equal to that with Britain.

Constituted as an independent state on the dissolution of Bolivar's Colombia (q.v.), the Republic of the Equator has, in little more than half a century, passed through a succession of violent political changes that would render its history equally difficult and profitless to follow; in his report to congress in 1888 the Minister of the Interior sorrowfully confesses, 'our historical tradition is revolution.' The turbulent career of the despotic little republic, with its complicated series of presidents, supreme chiefs, provisional commissioners, and dictators has been almost one long insurrection, amid which the nearly equally constant loss of territory was passed unheeded by the factions and their leaders. The latest revolt was stamped out only in 1886. Under its last constitution the executive is vested in a president elected for four years, with a vice-president, a cabinet of four ministers, and a council of state; the legislative power is intrusted to a senate and house of representatives. The state forms three military districts, containing seventeen provinces, which are administered by governors, and subdivided into cantons. The standing army was limited in 1884 to 1200 men, and there is a navy of one steel transport and three gunboats. Of the financial position of the country it has always been difficult to obtain exact and trustworthy information, although evidence has at all times been forthcoming of its chronic and apparently hopeless embarrassment. The revenue for 1887 was [illegible] sucres (a sucre having a nominal value of four shillings and an actual value of about three), the expenditure 4,428,-[illegible] sucres. The liabilities of the republic were stated (1888, Jan. 1) at [illegible] 592 sucres, which is a modest estimate, even disregarding unpaid interest; in the same year it was announced that the country was not yet in a position to make any practical offer to its foreign creditors.

See Velasco, Historia del reino de Quito (Quito, 1789; French by Ternaux-Compans, Paris, 1840); Humboldt's Voyage aux Régions équinoxiales (especially the 'Vues des Cordillères'); Villavicencio, Geografía de la República del Ecuador (New York, 1858); Hassaurek, Four Years among Spanish-Americans (Lond., 1868); Kolberg, Nach Ecuador (Freiburg, 1885); Stübel, Skizzen aus Ecuador (Berlin, 1886); Simson, Travels in the Wilds of Ecuador (Lond., 1886); Mr Edward Whymper's paper in the Proc. Roy. Geog. Soc., 1881; Colonel Church's Report and a paper in Petermann's Mitteilungen (1884), and the Report of the Minister of the Interior (Quito, 1888).


MEDITERRANEAN
SEA
CYPRUS
ARABIA
PETRÆA
English Miles
LIBYAN
DESERT
OASIS OF FARAFREH
OASIS OF DAKHEL
Tropic of Cancer
1st Fall
2nd. or Great Cataract
NUBIAN
DESERT
4th Cataract
5th Cataract
6th Cataract
KHARTOUM
SOUDAN
KORDOFAN
SENNAR
DARFUR
White Nile
Blue Nile
EQUATORIAL
PROVINCE
UPPER EGYPT
CONGO
FREE STATE
SALEM ON SALEM

EGYPT, *ē'-jipt:* a country in north-east Africa, extending from the Mediterranean to the latitude of Wady Halfa, *i.e.*, from 21° 52½' to 31° 36' n. lat., and comprising an area of 12,366 sq. m. The name is derived from the Greek Aigyptos, perhaps a transliteration of Ha-keptah, 'the city of Ptah'—*i.e.*, Memphis, or formed from the Sanskrit root *gup*, 'to guard,' as *âgupta*, 'guarded about.' In Hieroglyphics and Coptic it was called *Kemi* (Black Land), from the color of the soil; and by the Hebrews *Mazor*, 'guarded' or 'fortified,' (in the singular—*i. e.*, lower E.), or *Mizraim* (in the dual—*i.e.*, upper and lower E., but also used as a singular), modified by the Assyrians into *Musr*, and by the Persians into *Mudraya*. The name is still preserved in the Arabic *Misr* (vulgarly *Masr*), a word applied alike to the country and its capital, Cairo. E. is, literally, what Herodotus termed it, 'the gift of the Nile,' (*dōron tou potamou*); for it extends only so far as the annual inundation of the river spreads its layer of alluvial sediment, brought down from the washing of the Abyssinian mountains, turning the barren rock into cultivable soil, and then retreating to its normal limits, leaving the rich deposit to the influences of sun and air and human labor. Geologically and ethnologically, E. is confined to the bed of the flooded Nile, a groove worn by water in the desert; and the bordering deserts and the southern provinces of Nubia, Khartoum and the rest, toward the equator form no part of the E. of nature or of history, though from time to time they have been politically joined to it. Thus limited, E. occupies little more than 11,000 sq. m., or about a third of the area of Ireland.

The Nile after [illegible]

ing through the rocky barrier at Assouân, pursues a northerly course, varied by only one considerable bend near Thebes, until, a few miles north of Cairo (30° 15′ n. lat.), it divides into two main streams, terminating in the Rosetta and Damietta mouths, through which, after a course of 3,300 miles, it pours during 'high Nile' some seven hundred thousand million cubit metres daily into the Mediterranean Sea. The other five mouths which existed in antiquity have silted up; and the triangular district inclosed by them, and supposed by some of the ancients to have been recovered from the sea, formed the Delta, now called lower E. The basin of the Nile is bounded by the smooth, rounded ranges of the Arabian hills (which, like the so-called Arabian desert, are not in the Arabian peninsula, but in E., between the Nile and the Red Sea) on the e., and the Libyan on the w., neither rising as a rule higher than 300 feet above the sea level, though in rare cases, as near Thebes, the eastern hills attain an altitude of 1,200. The general appearance of the valley is thus described: 'In the centre the brown toned river, turning reddish when swollen by the rains of the inundation; higher up on either side, but chiefly on the western, the bright green fields of waving corn, or beans, or lupin; then a border, still higher, of dusky barren rock; and then the slopes of the deserts—the long red and yellow and gray ridges of sand and limestone rock, generally low and tame in outline, and lying at some distance back from the river, but sometimes closing even to the very bank in bold headlands, scored by torrent beds where water rarely flows, and then shearing away to the distance of several miles, and leaving a wide level plain of cultivable land' (Lane Poole, Egypt). One great physical peculiarity of E. is the general absence of rain; occasional showers have indeed become more frequent of late years, but the land still depends for irrigation upon the annual overflow of the Nile. The climate is remarkably mild, especially south of the Delta and in the desert; from Cairo to Alexandria the air contains more moisture and is less salubrious, while the Mediterranean coast is subject to rain, and infected by the belt of salt marshes. Everything in the Egyptian climate proceeds with regularity, even the winds. From June till February cool northerly winds prevail, the Etesian breezes that waft the traveller's dahabeya up the Nile; then till June comes a period of easterly, or, still worse, hot southerly sand-winds called the Khamsin, or 'Fifties' (as blowing fifty days). The simoom is a violent sand wind, commoner in the desert than in the valley, but rare anywhere. Earthquakes are occasionally felt; and the temperature in winter in the shade averages 50° to 60° F., and in the heat of summer 90° to 100° in lower E., 10° higher in the upper valley. The most remarkable phenomenon is the regular increase of the Nile, fed by the fall of the tropical rains, which commence [illegible] in the spring, and falling first into the White, and then into the Blue Nile, reach E. in the middle, and the Delta at the end, of June. In the middle of July the red water appears, and the rise may be dated from that time; it attains its maximum (an average rise of 36 feet at Thebes, of 25 at Cairo) at the end of September, and begins to decline visibly in the middle of October, loses half its height by January, and subsides to its minimum in April. By the end of November, the irrigated land, over which the water has been carefully equalized by drains and embankments, has dried and is sown; soon it is covered with green crops, which are reaped in March. The grain crops, sown in November, are harvested in June. Cotton, sugar, and rice are sown in March and are harvested in October and November. Sorghum and legumes are sown in July and mature by September or October. The state of the Nile in fact marks the season more accurately than the variations of temperature. Except in the dry air of the valley and desert, E. is by no means remarkably healthy; in addition to occasional visitations of plague and cholera, ophthalmia, diarrhœa, dysentery, and boils prevail and European and even Negro races are with difficulty acclimatized. With prudent modifications of our modes of life, however, English people, even young children, thrive well in most parts, and for certain classes of invalids, for instance consumptives, the desert air is wonderfully recuperative.

Geology.—E. is separated from Nubia by a low hilly region about 80 miles broad from E. to W., composed of granitic rocks. The same crystalline rocks extend up the shore of the Red Sea to near the opening of the Gulf of Suez, stretching inland for fully 30 miles

The scenery in this district is wild and rude, and the course of the Nile is frequently interrupted by cliffs and broken masses of granite, which form striking cataracts. The granitic region terminates at Assouán, the ancient Syene, whence most of the materials for the colossal monuments of E. were procured. The Arabian and Libyan ranges, on the right and left of the river, are alike composed of cretaceous strata, the predominant rock being sandstone, which is durable and easily worked, and was therefore extensively used in the erection of ancient temples, pyramids, and tombs. The cretaceous sandstone extends from the granitic rocks forming the first cataract at Assouán for about 85 miles to Esné, where it is covered by a limestone belonging to the upper chalk series. This continues on both sides of the valley for about 120 miles, when it is covered by a tertiary nummulite limestone, which forms the further prolongation northward of both ranges of hills. The easy disintegration of these beds renders the scenery in the limestone districts tame and monotonous; frequent table lands occur, on one of which are built the three pyramids of Gizeh (q.v.), the material employed being the predominant limestone.

Over a large extent of E. these rocks are covered with moving desert sands, and in the flat lands bordering the Nile they are coated to a depth of about 30 feet (at the river's bank, thinning away toward the desert) with the alluvium brought down by its waters, which has formed the Delta at its mouth. This alluvium consists of an argillaceous earth or loam, more or less mixed with sand, and a quartzose sand probably derived from the adjacent deserts by violent winds. It is remarkable that this sedimentary deposit has no traces of stratification, and also that within short distances great variety is observed in what are apparently synchronous deposits. The increase of the deposit is estimated at about 4½ inches in a century. The rocks of E. afforded the stones used in its edifices and sculptures: granite, syenite, basalt (from Assouan), breccia diorite, verde antique, and the red porphyry (from the mountains in the Arabian desert), sandstone and limestone (from the hills bordering the Nile), and alabaster (from Tellel Amârna). Emeralds, gold, silver, and copper, were formerly found near the Red Sea: and salt, natron, and—since 1850—sulphur are still among the mineral products of Egypt.

Natural History. The signal peculiarity of the vegetation of the Nile valley is the absence of woods and forests. Even clumps of trees (except palms) are rare, though some have been recently planted. The Pharaohs got their timber chiefly from the Lebanon, and modern E. is supplied from the forests of Asia Minor. The date and the doom palm, the sycamore, acacia, tamarisk, and willow are the commonest trees; the myrtle, elm, and cypress are rarer; the mulberry belongs to lower E. Among fruit trees, the vine, fig, pomegranate, orange, and lemon abound; apricots, peaches, and plums are of poor flavor; Indian figs (prickly pears) and bananas have been naturalized; and watermelons are at once the meat and drink of the people in the hot days. Of flowers, the celebrated lotus, or water lily, has supplied many ideas to Egyptian architects.

The lack of jungle or cover of any sort accounts for the poverty of the Egyptian fauna. The hyena, jackal, wolf, fox, hare, rabbit, jerboa, lynx, ichneumon, and weasel are common enough; the antelope is the chief quarry; the wild ass and wild cat are almost extinct; and the crocodile, like the hippopotamus, scared by European rifles, is beating a retreat to the tropics. The ordinary beasts of burden are the ass and camel, the latter is always one-humped, and, like the draught buffalo and the horse, is an importation unknown to the ancient Egyptians prior to the 18th dynasty. The short-horned cattle famous from the time of the Pharaohs, are seldom killed by the natives, and mutton is the staple butcher meat in E.; goats also are common. The dog is considered unclean by Mohammedans, and is used merely as a scavenger and watch-dog. Of domestic birds water-fowl were anciently the most numerous, and [illegible] the small gallinaceous poultry we now see are probably not of older date than the Persian invasion. Pigeons have always been abundant. There are three or four varieties of vulture; eagles, falcons, hawks, and kites are common, as is also the ibis, [illegible] certainly identified with the sacred ibis, of which many fables have been related. The ostrich is sometimes seen in the desert. Of reptiles, besides the vanishing crocodile, lesser serpents, chameleons, and lizards abound. The trionyx or soft tortoise, is plentiful in the Nile. Serpents are numerous, and among these the dreaded cobra and the cerastes (q.v.). The Nile is full of fish, generally of rather poor flavor; the best are the binny (see BARBEL), the bulty, the latus (one of the perch family) and the bayad, or silurus. The sacred beetle (*Scarabæus sacer*) is one of the most remarkable insects. The scorpion's sting is sometimes fatal, and dangerous spiders (*solpuga*, erroneously called tarantulas by Europeans), to say nothing of minor insect pests, and locusts, remind us that the plagues of E. are not merely ancient history.

E. is essentially an agricultural country, and in some parts, by the aid of regulated artificial irrigation, the rich alluvial deposit will bear three crops in the year. Wheat is the chief cereal; but barley, maize, durra, beans, lentils, clover, etc., are also largely grown, with very little trouble beyond the management of the water. The extensive culture of papyrus, which anciently supplied material for paper, has in modern times been superseded by that of the sugar-cane, cotton, indigo, and tobacco.

Divisions.—In ancient as in modern times E. was always divided into the upper and the lower, or the southern and the northern country; and at a very early period it was further subdivided into a number of nomes, or departments, varying in different ages; forty-two was probably the usual number. A third great division, the Heptanomis, or seven nomes, preserved in the modern 'middle E.' (*Wustáni*), was introduced at the time of the geographer Ptolemy. Each nome or department had a separate local municipal government of a monarch or lieutenant-governor, besides governors of the cities and of the temples, scribes, judges, and other functionaries. Its limits were measured and defined by landmarks. In the 5th century A.D. E. was divided into Augusta Prima and Secunda on the e., and Ægyptiaca on the w., Arcadia (the Heptanomis), Thebais Proxima as far as Panopolis, and Thebais Supra to Philæ. Under the Mohammedans, the triple division into Misr el Bahri (lower E.), el Wustáni (middle), and es Sa'id (upper) has prevailed, but the number of subdivisions has varied; at present there are altogether thirteen provinces, of which half are in the Delta. For the divisions of the territory outside E. proper, annexed in 1876, and abandoned in 1885, extending as far south as the Victoria Nyanza, see SOUDAN.

The population of the country must have been large at the earliest period, as 100,000 men were employed in the construction of the Great Pyramid alone during the 4th dynasty, nearly 3,600 years B.C. It has been placed at 7,000,000 under the Pharaohs, distributed in 1,800 towns, which had increased to 2,000 under Amasis (525 B.C.), and upward of 3,000 under the Ptolemies. In the reign of Nero it amounted to 7,800,000. The population in 1844 was 2,500,000; in 1859, 5,125,000; and in 1882, 6,817,265 in E. proper, or including Nubia, Dar Fur, and other dependencies, nearly 17,000,000. In 1884 the population was 6,8[illegible]381. Seven-eighths of the inhabitants consist of native Mohammedans; the Copts (q.v.) are estimated at 500,000, and the rest are composed of Bedawis (Bedouins), Negroes, Abyssinians, Turks, Syrians, Greeks, Armenians, Jews, and Europeans. The dominant population appears, from the language, and from the physical conformation of the mummies, to have been of mixed origin, part Asiatic and part Nigritic; and there seems to have been an aboriginal race of copper color, with rather thin legs, large feet, high cheek bones, and large lips; both types are represented on the monuments. The statements of Greek writers that a system of castes prevailed in E. are erroneous. What they took for castes were really conditions of society, and the different classes not only intermarried, but even, as in the case of priests and soldiers, held both employments. As in all bureaucracies, the sons often obtained the same employments as their fathers.

Religion.—The Egyptian religion was a philosophical pantheism, the various attributes of the Deity being divided among the different gods of the pantheon. Unlike the Greek, where a god was honored in a separate temple, each Egyptian divinity was accompanied by a 'cycle' or 'company' of companion gods. The principal towns and cities had each a family group of gods, consisting of a pair of deities, a wife and sister, and a son. Thus Ptah, or Hephæstus, the eponymous and principal god of Memphis, formed a triad with the goddess Sekhet (fig. 1) or Bast, and Imhotep; at Thebes the triad was Amen-ra, Mut, and Khons; and at Apollinopolis Magna, Har-bahud (Horus), Hathor, and Har-pakhrut (Harpocrates.)

These triads were usually, if not always, accompanied by inferior deities completing the *pat;* and personifications of the elements, passions, and senses were introduced. The worship of some triads, however, became universal, that of Osiris, Isis, and Horus being found all over E. at the earliest period. The gods, indeed, are stated by the Greeks to have been divided into three or more orders or systems. The gods of the Memphite order were Ptah, Ra, Shu, Seb, Osiris, Set, or Typhon, and Horus; and Amen, Menu, Atmu, Shu, Seb, Osiris, Set, Horus, and Sebak, according to the Theban system. Difficulties arise from the tendency to fuse different gods into one, particularly at a later period: Amen-ra, for example, being identified with Horus; and Horus, Ra, Khnum, Mentu, and Tum being merely considered the sun at different periods of his diurnal course. Very little light is thrown on the esoteric nature of the deities by the monuments, and the classical sources are untrustworthy; but the antagonism of good and evil is shown by the opposition of the solar gods and the great serpent Apap, a type of darkness, and the hostility of Osiris and Set, or Typhon. Some of the gods were self-existent, others emanated from a father, and some were born of a mother only, while others were the children of greater gods. Their energies and powers differed, and their types, generally with human bodies, have often the heads of the animals which were their living emblems, instead of the human.

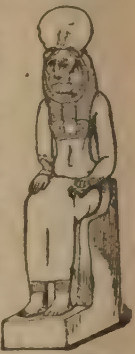


Fig. 1.—Sekhet.

A few foreign deities became at the close of the 18th dynasty ingrafted into the religious system, as *Bar*, Baal; *Ashtarata*, Ashtaroth; *Anta*, Anaitis; *Ken*, Kiun; *Reshpu*, Reseph; *Set*, or Sutekh, sometimes identified with Baal. All the gods had human passions and affections, and their mode of action was material; they walked on earth, or sailed through ethereal space on boats. First among the deities comes Ptah, the opener, represented as a bow-legged dwarf or embryo, the Phœnician Pataikos, the creator of the world, the sun and moon, out of chaos (*hat*) or matter, to whom belong Sekhet, 'the lioness,' and Bast, Bubastis, lion-headed goddesses presiding over fire, and Nefer-Tum, his son, a god wearing

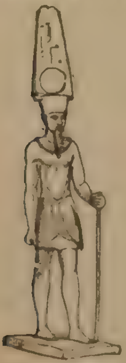


Fig. 2.—Amen-ra.

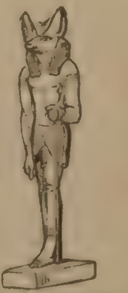


Fig. 3.—Anup or Anubis.

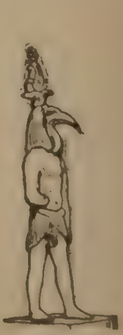


Fig. 4.—Thoth.

a lotus on his head. Next in the cosmic order is Khnum, worshipped at Elephantine, the ram-headed god of the liquid element, who also created the matter of which the gods were made; and connected with him are the goddesses Heka the Frog, or primeval formation, Sati, or 'sunbeam,' and Anuka, alluding to the genesis of the cosmos. The Theban triad comprised Amen ra (fig. 2), 'the hidden' power of the 'sun,' the Jupiter; Mut, the 'Mother' goddess or 'Matter,' the Juno; Nit, the 'Shuttle,' the Minerva; and Khons, 'Force' or Hercules, a lunar type. A subordinate type of Ammon is Khem or Amsu, 'the enshrined,' who, as Harnekht, or Powerful Horus, unites beginning and end, or cause and effect.

The solar system comprises Ra, the Sun, who, traversing the empyreal space of gates, passes each hour a separate region, and, as he descends behind the west hills of the horizon, becomes Atmu, also a demiurge, while as Mentu he is the rising sun, and as Khepra, a scarab headed god, the male creative or existent principle; and he is identified with Amen, Khnum, and other deities. Day and night, Ra and his satellites pursue the Apap or Serpent Darkness with alternate success. The souls of the blessed come off from earth, and entering the boat of Ra, there enjoy the perpetual streams of light which emanate from his orb. From Ra or Helios sprung Shu and Tefnet, Hathor and Mat. Seb or 'Time,' and Nut or the 'Firmament,' i.e., Kronos and Rhea, gave birth to Osiris, Isis, Nephthys, Set, and the elder Horus, a group of terrestrial and infernal deities. The myth of Osiris destroyed by his wicked brother Set and hewn in pieces, recovered by Isis, and avenged by Horus his son, embalmed by Anubis (fig. 3) and the genii of the dead, and defended by Thoth (fig. 4), the Egyptian Hermes, at the great 'judgment' before his accusers, Set and the conspirators, was the type of the judgment and future destiny of man, and all deceased were called by his name (see OSIRIS). Numerous inferior deities, such as Hapi, the Nile, appear either as other forms of the superior deities or local varieties of the myths. Each deity had its sacred animal, which received a local worship and which was considered to be the 'second life' of the deity it represented. The sacred animal selected was installed in the sanctuary of the temple, and gave oracular responses. The most remarkable of these animals was the Apis bull of Memphis, whose worship had a long and extensive existence. The Egyptians believed in the 'transmigration' of souls, and that souls not sufficiently pure to be admitted into 'the courts of the sun,' or whose bodies had perished before the expiration of 3,000 years (see EMBALMING), passed from body to body, having first descended to the Hades, and passed through the appointed trials and regions, endeavoring to reach the manifestation to light. In this progress, the soul was required to know and tell the names of the doors, regions and their guardian demons through which it had to pass. The Sacred Bark (fig. 5),

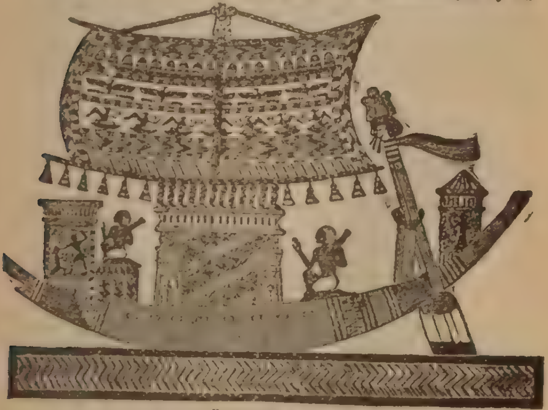


FIG. 5.—Sacred Bark.

so frequently represented in the mural pictures, in which the mummy was ferried across the temple lake, or the Nile itself, to its tomb, was typical of that Boat of the Sun which would eventually bear the purified spirit to the Elysian fields. See TRANSMIGRATION, DEAD (BOOK OF THE).

Religious Monuments. The religious edifices of the Egyptians consist principally in tombs and temples. These are indeed the chief survivals of their marvellous architecture, for of their private houses (which were constructed almost exclusively of sun-dried brick) and military forts, etc., only the foundations as a rule remain. The pyramids (q.v.) themselves are royal tombs, huge cairns reared to mark and to guard the sarcophagi of kings, with small temples dedicated to their shades in front. These and the smaller tombs around form the earliest class of Egyptian monuments. The next are the rock-tombs of the 11th and 12th dynasties, in which the subterranean character of the pyramid-vaults is retained in the deep well or mummy pit; but an entrance chapel takes the place of the separate temple, and is sometimes, as at Beni-Hasan, decorated with a portico and proto-Doric columns, while the walls are adorned with pictures drawn from the daily life of the deceased, and forming a complete commentary on the manners and customs of the people. Finally the fighting monarchs of the 18th and following dynasties of the Theban epoch effected a further change: here the temple stands to the tomb (which is excavated in the hill behind) as the entrance chapel does to the subterranean rock-tomb. Examples of this period abound at Thebes. In the valley of the Tombs of the Kings in the Libyan hills are the exquisitely painted grottoes of Rameses III. and others of his line, and below in the plain are the corresponding

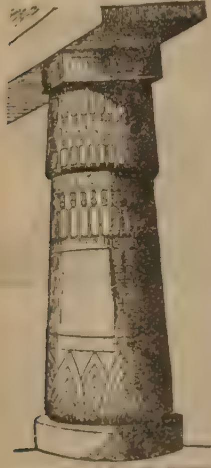


FIG. 6.—Column from the Hypostyle of Karnak.

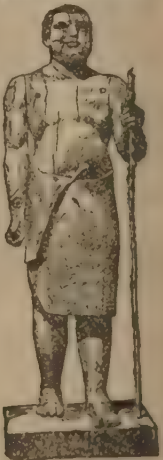


FIG. 7.—[illegible] of wood, Boulak Museum.

funereal or commemorative temples, the Rameseum, Amenophium, and others at Kurna and Medinet Habu. The Egyptian temple was not a place for congregational worship but for priestly procession, and hence its chief characteristics are aisles and portals. Inside the great square crude brick wall which surrounded everything except perhaps the sacred lake over which the dead were ferried, an avenue of sphinxes, lions with men's or ram's heads, leads up to the first propylon, a gateway flanked by two tapered square towers, and often a couple of obelisks or colossal statues in front, or royal figures seated against the façade of the towers. Within this gateway is the great open court (peristyle), with colonnades of the peculiar Egyptian columns, with capitals of papyrus buds or flowers, and shafts sometimes tapered at the base and tied near the top like a bundle of reeds, or guarded in front by the standing figure of Osiris. Behind this court is the hypostyle or large hall of assembly, with a roof supported by a forest of columns; and between the two courts is a towered portal, and perhaps obelisks or statues. Finally, behind the second hall, separated sometimes by a vestibule, is the adytum, or sanctuary, where the emblem of the god is kept in a mysterious darkness, penetrated only by the priests whose vestries and treasuries adjoin the holy of holies. The whole of the temple walls, columns, roofs, gateways is covered with sculptures and paintings representing the great achievements of the king who built the temple, and various acts of adoration performed by him in honor of the gods.

The great temple of Karnak at Thebes has a first propylon of a width of 360 feet, giving access to an open court, 329 by 275 feet, with columns on either side, and a double row in the middle to guide the procession. Another great portal admits to the hall of columns or hypostyle, the most magnificent work of its kind in E. It is 170 feet long and 329 wide, and its ruined roof is upheld by 134 columns, 12 of them 62 feet high and 12 feet across, forming a great central aisle, and the rest 42 feet high and 9 thick. It was the work of Seti I. and his son Rameses II., and on its outside walls the sculptures tell the glorious history of these two warrior kings, how they fought against the Hittites, and the Ruten, and the Arabs, and the Syrians, and the people of Armenia, and charged them in their mighty chariots, and put them to flight, and took from them their strong cities. The battle scenes are vigorously drawn (Lane-Poole, Egypt). Karnak is a mass of ruins, however; some of its obelisks are fallen, and one from the neighboring Luxor has been transplanted to Paris, just as one of the obelisks from Heliopolis was removed by Cleopatra to Alexandria, whence it has now changed its site to the Thames Embankment, while another has gone to New York. To see an almost perfect Egyptian temple, though of much later date, Edfu (q.v.) must be visited.

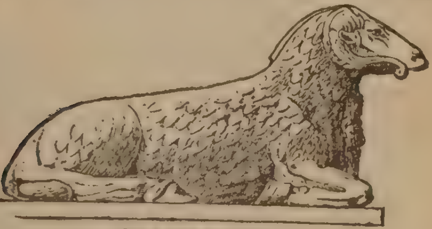


FIG. 8. Ram-headed Sphinx.

Science and Culture.—When first the Egyptians appear on the page of history they are already possessed of a marvellously advanced civilization which presupposes thousands of years of development, even before the remote period, nearly 4000 B.C., when the pyramid builders reigned (for dates compare the next section, on Chronology and History). In the sciences, as early as the 4th dynasty, the notation of time, the decimal system of numbers, weights and measures adjusted to a pound of 1,400 grains, the geographical division of the country, and the division of the year of 365 days (into three periods of four months of 30 days) and twelve months, were already known, while the form of the buildings displayed a knowledge of geometry and its sister sciences. An extended knowledge of astronomy was probably possessed; nor could the arts have reached such a high development without some acquaintance with chemistry; and tradition assigns a knowledge of medicine and anatomy to a still earlier age. The art of literary composition also existed in the 4th dynasty, for fragments of the religious or so-called Hermetic books of that age have reached us (see PAPYRUS); and Cheops himself was an author. The language of the period, although concise and obscure, was nevertheless fixed; and a code of manners and morals, under the 5th dynasty, has been handed down. For the Egyptian writing, see HIEROGLYPHICS. Architecture had attained great refinement at an early period; not only were the chambers and temples, and other edifices, squared and directed to face the cardinal points, but the use of a kind of false arch, or stones disposed so as to form an angle overhead to relieve superincumbent pressure, *en décharge*, was practiced as early as the 4th, and the vault or arch was in existence in the 11th and 18th dynasties, the latter eight centuries before the Cloaca Maxima of Rome. The transport of enormous blocks of stone testifies to an early development of engineering skill. Columns were in use as early as the 4th dynasty; and in the 12th the so-called proto-Doric ones of Beni Hasan, with their cornices and triglyphs, show that the Greeks derived this order of architecture from E. The symmetrical arrangement of the temples, consisting of rectangular courtyards and hypæthral halls of many columns built before the original shrine, with their gateways slightly converging to the apex, and their bold and severe lines, and the obelisk and the pyramid, forms admirably adapted to resist the inroad of time, not to mention the remarkably fine masonry, prove the high development architecture had acquired at the remotest age. Nor was sculpture less advanced, for long before the age of the mythical Dædalus the statues of the 4th dynasty, of nearly 4000 B.C., had been modeled with great accuracy to a fixed canon; and although their architectural employment had rendered their action conventional—such as the arms pendant, the left foot advanced, and the feet not detached but cut in stone, with the part between them retained—and although the ears were placed too high in the head, while a pointed pillar was fixed behind in standing figures, yet in portraiture they had attained to great perfection. The sculptures found at Meydoum, the celebrated figures of Rahotep and Nefert, possibly older than the ones here mentioned, the carved wooden figure found at Sakkarah (see fig. 7), the chiselled statues of Khafra, all belonging to the earliest antiquity, prove the early Egyptians to have possessed extraordinary skill in the plastic arts, and are among the most ancient sculptures in the world, free from the conventional forms which characterized most of the later Egyptian representations of the human form. The lions and sphinxes of the later period more-

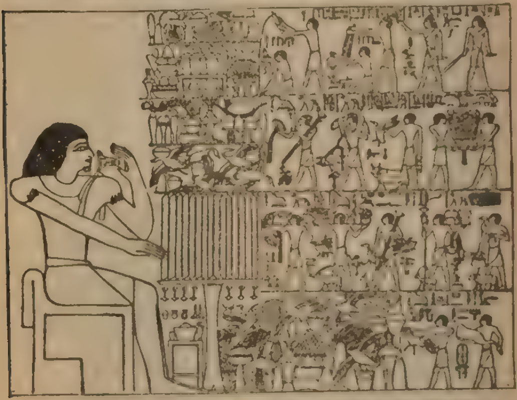


FIG. 9. Wall painting from the Tomb of Ptah-hotep at Sakkarah, of the Pyramid Age.

over, are often executed with a spirit surpassing the power of Greek artists. A peculiar kind of bas relief prevailed in E., the figures being sunk below the surface like the intaglio figures of a gem, but in slightly convex relief. This style, called incavo-relievato, or intaglio, has been most successful in preserving the hieroglyphs of the monuments. Bronze statues cast from molds, and having a leaden or other core, were first made in E., and subsequently introduced into Greece by Rhœcus. This art flourished best under the earlier dynasties, and had much degenerated in the 19th and 20th, although subsequently revived by the 26th. Painting appeared at the same age chiefly in tempera or whitewashed surfaces although fresco was occasionally used; encaustic appears only under the Greeks and Romans. Painting, of course, was freer than sculpture, but yet had a rigid architectural character, and followed the same canon as sculpture, the colors used being generally the pure or primitive, and the background generally white. The architectural details of Egyptian temples and the hieroglyphs appear to have been always colored, and this added additional charm to the sculptures. The religious papyri or rituals were also often embellished with elaborately colored vignettes, resembling the illuminations of medieval manuscripts. Nor had the Egyptians attained less eminence in the art of music, the harp and flute appearing in use as early as the 4th, and heptachord and pentachord lyres as early as the 12th dynasty; besides which, drums, tambourines, flutes, cymbals, trumpets, and guitars are seen in the 18th, and the national instrument, the jingling sistrum (fig. 10), in the 4th. Many of the instruments are of great size, and must have produced considerable effect. Nor was the art of song wanting: measured recitations or chants occur on monuments of the 12th dynasty, while the lays of Maneros traditionally dated from a still earlier period. Poetry, indeed, was at all times in use, and the antithetic genius of the language suggested the application of the strophe and antistrophe, although it is not possible to define the metre. In the mechanical arts many inventions had been made; the blow-pipe, used as a bellows, appears in the 5th dynasty, bellows and siphons in the 18th. The saw, the adze, the chisel, press, balance, and lever appear in the 5th, the harpoon in the 12th, razors in the 12th, the plow and other agricultural implements in the 5th. Glass of an opaque kind is seen in the 4th, and dated specimens in the reign of Thothmes III. give the priority to E. (see GLASS). A glazed pottery or porcelain (see POTTERY), the potter's wheel, and the kiln, appear in the 4th, and the art of metallurgy, with the use of tins, at the same period. In the military art the Egyptians used at an early age defensive armor of shields, cuirasses of quilted leather, and helmets; while spears, clubs, maces, swords, daggers, bows, and hatchets formed their offensive weapons. For sieges they employed the testudo, ladders, [illegible] and [illegible], and mines. The army was composed of infantry till the beginning of the 18th dynasty, when war-chariots were introduced, for, prior to that period, the ass only was known and used for transport, and carriages not having been invented, persons and goods were transported on the panniers of asses, or on a kind of saddle slung between two of these useful animals. War-boats no doubt existed at an early period, and are mentioned as early as the [illegible] dynasty, and sea-going vessels under the 11th, but no fleet till the 18th. The Nile, however, was constantly navigated by [illegible] with sails. An extensive commerce was carried on with the surrounding nations, and their tribute enriched the country with slaves, cattle, gems, valuable metals, and objects of curiosity. Rare animals were collected for ostentation. Under the earlier dynasties the chief occupation of the nation appears to have been [illegible] grain, indulging in banquets, fishing, fowling, and the chase, and the establishment of [illegible] as well as the organization and artifices [illegible]. How transactions were carried on [illegible] is not very clear, unless gold circu[illegible] adjusted to a given weight, but [illegible] (*ten*) and its ounce (*kat*). The [illegible], see NUMISMATICS. The wealth of families was [illegible] the tombs and furniture of the

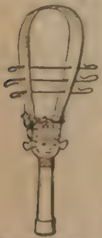


FIG. 10.—SISTRUM.

dead, and the preparations for embalming, which were on so vast a scale that filial piety did not disdain to mortgage not only the sepulchres, but the very mummies of its ancestors (see EMBALMING). Amusements were various, from the singlestick and juggling, the dance of the *ghawázi* (fig. 12), the bull-fight, to draughts, dice, and *mora*. In fact, ancient E. had a material civilization, which exerted all the requirements of industry, and forgot none of idleness. Pleasure was the object of existence, not, however, untempered by the voice of reason or the appeals of conscience, for the moral code was, theoretically at least, as pure as that of contemporary nations.

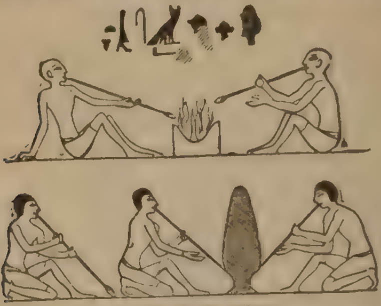


FIG. 11.—Egyptian Glass-blowers.

The civil government was administered by the three highest professions. The priests, distinguished by their superior knowledge, cleanliness, and godliness, had the ecclesiastical; the temples were ordered by high priests and an inferior hierarchy, with overseers, and governors of revenues, domains, and donatives; and each temple, like a monastic institution, had its carefully subdivided organization. The political and civil government was administered by royal scribes, or secretaries of state, who superintended the revenue, justice, foreign affairs, and all the interests of the executive. Sacred scribes attended to the ecclesiastic interests, and inferior scribes to the local interests. The public works, the collection of grain and of the linen dues, the cattle, workmen, wells, irrigation, had each their separate superintendents and scribes. The military force, of 410,000 men, at a later period, comprising all arms of the service, was ruled with severe discipline, and under the direction of nomarchs, colonels, captains, and lieutenants, while in the time of Rameses II. there were territorial regiments. The criminal and civil law was administered by judges, who held travelling assizes, and to whose tribunals the necessary officers were attached. The athlophoros or standard-bearer also transmitted the decrees of the royal chancery. The execution of deeds required so many wit-

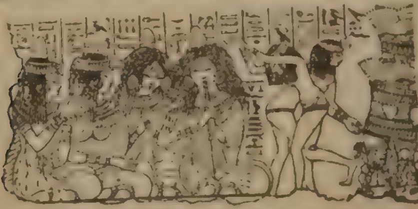


FIG. 12.—Musicians and Dancers.

nesses that fraud evidently often occurred. The superior position of women in the social scale, notwithstanding the permission to marry within degrees of consanguinity usually forbidden, shows that the Egyptians reached a higher point of delicacy and refinement than either their western or eastern successors. Colossal in its art, profound in its philosophy and religion, and in possession of the knowledge of the arts and sciences, E. exhibits the astonishing phenomenon of an elevated civilization at a period when the other nations of the world were almost unborn.

Chronology and History.—In the time of Ptolemy Philadelphus, in the 3d century B.C., Manetho of Sebennytus, high-priest of Heliopolis, who had the best records of his country at his command, drew up, at the request of the king, a history, in which he divided the space of time from Menes to the conquest of E. by Darius II. into 30 dynasties. The original work of Manetho has perished, but chronological epitomes have been preserved by Julius Africanus, a writer of 300 A.D., Eusebius, and Georgius Syncellus, 800 A.D., and a comparison of their statements, corrupted as they are, with the records of the monuments has clearly established the truth and authenticity of Manetho's authorities. The Hebrew Scriptures, Herodotus, Diodorus, Josephus, Eratosthenes, and others also contain chronological information, and the learned of Europe have long endeavored to reconcile the conflicting statements of these authorities. Unfortunately, the information derived from inscriptions on the monuments is defective at certain periods, while in all the national custom of dating in kings' reigns only, without the use of the controlling date of any cycle, renders the subject still more obscure; for the Sothiac cycle, or Dog-star period of 1,461 'vague' and 1,460 sidereal years of 365¼ days, was not in official use. Even the famous Table of Kings at Abydos leaves us mystified, while the celebrated hieratic papyrus at Turin, belonging to the age of the 19th dynasty, which contained a system of chronology arranged on a principle of cycles and regnal years, has unfortunately suffered so much mutilation that it is impossible to reconstruct it satisfactorily, and we are obliged to arrange the history according to the dynastic successions of Manetho, without being always able to affix the precise duration of each dynasty, or to determine how many of them may have ruled contemporaneously.

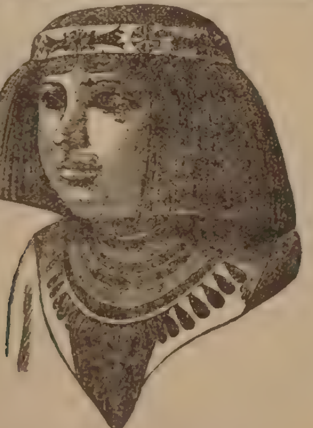


FIG. 13.—Head of Nepert, from Meydum. (Boulak Museum.)

E. was fabled to have been first governed by a dynasty of gods, who, according to Manetho and other Greek authors, were Hephæstus (Ptah), Helios the Sun (Ra), Sos (Shu), Kronos (Seb), Osiris (Hesiri), Typhon (Set), and Horus (Har). These gods reigned 13,900 years, and were succeeded by the demigods and manes, whose sway occupied 4,000 more years. It is singular that, with the exception of the Osirid saga related above, Egyptian mythology can hardly be said to exist; there are few or no legends about the gods. Their characters are differentiated, but their exploits are unsung.

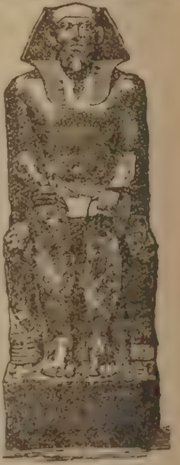


FIG. 14.—Statue of Khafra. (Boulak Museum.)

The epoch of Menes is the first human point in the history of ancient E., and has been placed at 5004 B.C. by Mariette, 4455 B.C. by Brugsch, and 3892 B.C. by Lepsius, the three leading authorities. No contemporary monuments of Menes exist, but he is said to have been king of This (near Abydos); to have changed the patriarchal life of the nation, instituted laws and divine worship, and marched north and founded Memphis and the temple of Ptah, after diverting the course of the Nile by a dike to make it a barrier against the Arabs on the east; and finally to have been devoured by a crocodile. He is clearly no legendary creation, but a real founder of a state. His first or second successor, Athothis, is said to have been a physician, and to have written treatises on anatomy, and to have built the palace of Memphis. Uenephes, the fourth of this line, is conjectured to have founded the Pyramid of Steps at Sakkara. This dynasty reigned about 250 years, and was succeeded by the 2d, supposed to have lasted about 300 years, of which no contemporary monuments remain. This dynasty, however, introduced the worship of sacred animals, and enacted that a woman might reign over the land. With the 3d dynasty, which endured about 200 years, from 3966 B.C. (Brugsch), monumental history properly begins: King Senoferu conquered the Sinaitic peninsula, and opened the copper mines of the Wady Maghâra, where his name and portrait may be seen. He was probably buried in the Pyramid of Meydum near which some tombs have preserved writings, pictures, and sculpture of his time, among others the famous seated figures of Rahotep and his wife Nefert (fig. 13), believed to be the oldest statues in the world. The 4th dynasty, also of Memphites, had an existence of [illegible] years ([illegible] B.C.). Khufu, the Cheops of Herodotus, constructed the Great Pyramid at Gizeh, and rebuilt the Temple of Isis hard by the Sphinx. Tradition, probably groundless, makes him a detestable and impious tyrant. Khafra (Chephren), his successor, built the second of the Gizeh pyramids, and Menkaura, or Mycerinus, the third. The so-called Book of the Dead (see DEAD, BOOK OF THE) or Ritual which dates from this period, and the high civilization which Memphis had then attained mark an epoch in [illegible] and the numerous tombs in the vicinity of the pyramids constructed during this and the subsequent dynasty evidence a highly advanced state of civilization and of art; the statues of Khafra (fig. 14) found near the Sphinx carved in hard stone, are notable evidence of both artistic and [illegible]. The cultivation of farms, the chase, the [illegible] the attention of the Egyptians [illegible], although the simpler [illegible].

The 5th dynasty was also Memphite, and composed of [illegible] kings, reigning about [illegible] years [illegible] built the truncated pyramid near Sakkara, locally called "Mastabat Faraoun," or "Pharaoh's Seat." The next dynasty, the 6th, [illegible] belonging to a different part of E. and not specially Memphite, was more remarkable, and tombs and inscriptions of the period are found from Assouan to Tanis, and in the valley of Hammamat, leading from Coptos to the Red Sea. The great figure of this house is Pepi

I., of whom, and his general Una, and his wars and expeditions and public works most interesting records remain. The pyramids of Dahshûr probably belong to his time. The dynasty ended, according to Manetho, with the fair Queen Nitocris, said to have been buried in the Third Pyramid of Gizeh, which she may have enlarged. Nitocris is the subject of various legends, and is believed by the Arabs to be a witch who still haunts the pyramid.

From the 6th to the 11th dynasty Egyptian history is almost a blank, but remains of the 11th, consisting of a line of monarchs called Entef and Mentuhotep, have been identified by the discoveries of their coffins at Thebes, and by the tablets referring to the construction of the fortress of Coptos and in honor of a local god. The successive reigns and monarchs of the 12th dynasty (from 2466 B.C.) are fixed by numerous monuments. Amenemhat I. the founder of the line, opened the quarries of Tura, embellished On, or Heliopolis, and founded the temple of Amen at Thebes. The monuments of his son Osirtasen I., exist in the Fayyûm, at Beni-Hasan, and Heliopolis; he subjected some of the Ethiopian tribes. Osirtasen III. established the southern frontier at Semneh, which he fortified, and was subsequently deified in Nubia. Amenemhat III excavated the Mœris lake, in the Fayyum, constructed the Labyrinth, and built the neighboring pyramid. Another great blank occurs between the 13th and 18th dynasties. About 200 B.C. the advance of the kings of Chaldea and Elam in Asia, or some revolution, precipitated the Hyksos, or Shepherd Kings, who appear to have been a Tartar race, on lower E. These invaders overthrew the reigning dynasty of lower E., took Memphis by assault, and established themselves in the city of Avaris, subsequently called Tanis, where their monuments still exist (see reports of the Egypt Exploration Fund). Joseph was probably the vizier of one of these kings, Apepi, at Tanis; and 'storehouses' such as he built are still visible at Pithom (Tell-el-Maskhûta). But the Egyptian rulers of upper E. overthrew their rule. Aahmes I. (Amosis), of the 18th dynasty (about 1700 B.C.), took Avaris by assault, besieged Sharuhan in Palestine, and attacked the Nubians. The Hyksos endeavored to substitute the worship of Set for Ra, but Aahmes I. restored the ancient temples and the old religion. Amenhotep I., his son and successor, who reigned under the tutelage of his mother, an Ethiopian queen, continued the Ethiopian campaigns, and embellished Thebes. Thothmes I. carried his arms to Tombos, in the heart of Nubia, and as far as the Euphrates, and erected splendid buildings at Thebes. Thothmes II., who reigned under the guardianship of his sister-wife, Hatasu, defeated the Shasu, or Arabs. His brother and successor, Thothmes III., elevated E. to the highest pinnacle of glory; and by the victory of Megiddo, in his twenty-third year, subjected the whole of Syria and part of Mesopotamia to his empire, receiving immense tributes from Kush and the Ethiopian races of the south, the islands of the sea and Assyria, Babylonia, Phœnicia, and central Asia, and endowing the temples of Thebes with the revenues of tributary cities. A calendar preserved at Elephantine recording the heliacal rise of the Dog-star on the 28th Epiphi has been held to show that the year 1444 B.C. fell in his reign, but this seems historically a century too late. Thothmes III. [illegible] excavated the copper mines of Maghara and erected temples throughout E. Amenhotep II. continued the conquests of the Ruten (Palestinians), took Nineveh by assault, and vanquished the Ethiopians. Amenhotep III. maintained the frontiers of the empire. At this period a heresy was introduced into E., favored by the queen Taia. Amenhotep IV. became a worshipper of the Aten, or solar orb, to the exclusion of the other deities of E., especially of Amen-ra. The capital was removed to Tell-el-Amarna, or Alabastron; the king changed his name to Khuenaten, and a succession of three heretical monarchs ruled E. for about thirty years, till Haremhebi, or Horus, restored the orthodoxy and extended the limits of empire.

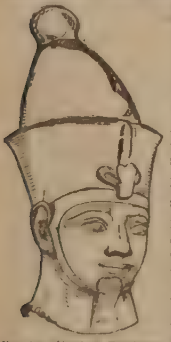


FIG. 15.—Head of Thothmes III.

The link which connects the last monarchs of the 18th with the monarchs of the 19th dynasty has been lost; but Horus was succeeded by Rameses I., the first of a long line of monarchs, who appears to have formed a treaty with the Khita, or Hittites, and to have maintained the conquests of E. as far as Wady Halfa. He was succeeded by Seti I., or Sethos, who attacked the Remenu, or Armenians, the Ruten, and the Shasu, who had again advanced to the Pa-khetem stronghold on the confines of E. Naharana, or Mesopotamia, and Sharu, or Syria, Punt, or Arabia Felix, and the opposite coast had also been invaded by his arms. The city of Atesh, or Katesh, the supposed Cadytis, was also besieged by Sethos, whose Asiatic victories introduced into E. the worship of Baal and Ashtaroth. Tyre, Aradus, and Bethanath in Canaan were garrisoned by his forces. E. was also embellished with many noble monuments in his reign. He was buried in a deep excavated rock tomb in the Bibân-el-Mulûk ('tombs of the kings'). Rameses II. (fig. 16), the son of Seti I., seems to have succeeded him at the **very youthful age of seven. Four years later he defeated the Khita (Hittites, q.v.) and their Syrian confederates at the battle of Katesh, in which many of the princes and officers of the Khita were drowned in the river Arunata, or Orontes. The battle continued two days, and the panegyric of an Egyptian scribe, Pentaur, has invested Rameses with the power of a god. The war lasted four years, and the king took Shaluma, or Salem, the ancient site of Jerusalem, and other cities. In his twenty-first year a treaty of peace and extradition was established between the Egyptians and Hittites, and Rameses married a Hittite princess. It is the tablet of this monarch which is found at the Nahr-el-Kelb, the Pass of the Lycus,** near Beyrout. This monarch **subjected Ethiopia, which had** revolted, to his arms, reimposed the tribute, and placed the country again under the government of the princes of Ethiopia, or Egyptian viceroys. He also established a fleet on the Mediterranean. His name and reputation formed the basis of the legendary Sesostris; the exploits of the monarchs of the 18th dynasty, and probably of his successors, being united with his fame. The reign of Rameses, although it exhibits a decline of art, yet demonstrates E. to have been in the height of its glory; and his epoch appears to have been about 1322 B.C., a special calendar having been sculptured to record the coincidence of the heliacal rising of the Dog-star and 1st Thoth, or commencement of the fixed and canicular (sidereal) year. His place of burial is uncertain, perhaps in the vaults of the Rameseum. His thirteenth son, Merenptah, or Menephtah, succeeded him upon the throne, transferred the capital to Memphis, successfully contended with the Tamahu, and the Rebu, or Libyans, and appears to be the Amenophis of Manetho and the Pharaoh (q.v.) of the Exodus. He introduced the heretical worship of Set, or Typhon, and was succeeded by Seti II. and others, whose inglorious reigns close the 19th dynasty.

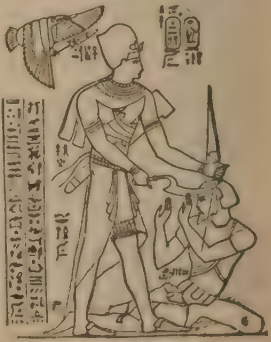


Fig. 16.—Rameses II.

The connection of Rameses III. with the previous dynasty is obscure. He warred chiefly with the Philistines and other maritime tribes of Greece and Asia Minor, and gained naval victories in the Mediterranean, and repeated the conquests of Ethiopia. He was followed by the splendid but inglorious line of the Ramessids, the sixth of whom, [illegible] in Ethiopia. The fall of this dynasty appears to have been a [illegible] revolution, as their hieratic successors held the office of high-priest of Amen-ra at Thebes. They held the government for a hundred and thirty years, and maintained relations with foreign countries, one of the monarchs having married a princess of the Ruten. The 22d dynasty is rather confused. They were also high priests of Amen-ra. Shashank I. is the biblical Shishak. His invasion of Israel with 12,000 chariots and 60,000 cavalry is recorded on the portico of the Bubastites at Karnak. The other monarchs of this line, Osorkon I., Takelot I., and their successors, have left no remarkable records, except Osorkon II., who adorned the splendid Temple of Bubastis, discovered by Mr. Naville while working for the Egypt Exploration Fund; and the dynasty, which appears to have been of foreign origin, is more chronologically than historically important; the attack on Jerusalem falling about 930 B.C. The 23d, Tanite, dynasty, which succeeded it, exhibits a decadence in E., and was succeeded by the 24th dynasty, consisting of a single monarch, the celebrated Bekenrenf, or Bocchoris, who reformed the laws, but having been taken prisoner by the Ethiopian Sabaco, of the 25th dynasty, was burned alive. From this period the history of E. becomes involved with that of Judæa and Greece. Tirhaka came to the assistance of Hezekiah against Sennacherib, and added to the temple of Gebel Barkal in Ethiopia. According to the Assyrian cuneiform inscriptions, the Ethiopians were expelled by the Assyrians, and the country was placed under various nomarchs. This state of affairs was closed by the rise of Psammitichus I., of the 26th dynasty, who, by the aid of Greek mercenaries, overthrew the other petty princes. His age marks a revival in art, and restoration of the old constitution of the empire. His successor, Nekao or Necho II., planned the canal across the Isthmus of Suez, from which he desisted, warned by the advice of an oracle, after having lost a vast number of men in the attempt. Under his reign, the Phœnician navigators first passed the line. After defeating Josiah, king of Judah, and conquering Palestine, he was himself defeated by Nebuchadnezzar at Carchemish. Psammitichus II. carried his arms into Ethiopia. Apries, his successor, having lost all the conquests, was deposed by Amasis, his successor, and strangled. Amasis favored in different ways the Greek colonies in E., married a Cyrenæan wife, and conquered Cyprus, but incurred the enmity of Cambyses, who overthrew his son and successor at the battle of Pelusium (527 B.C.). Cambyses treated E. with considerable moderation, but after an unsuccessful expedition against the Ethiopians, lost his reason, stabbed the bull Apis, and committed various atrocities. His successor, Darius I., governed E. with more prudence; but Xerxes I. and Artaxerxes I. had successively to reduce it to subjection, which they did in spite of assistance rendered to it by the Athenians. The 27th dynasty of Persians was followed by another Saite line, the 28th, who still held ground against the Persians. The 29th, Mendesian dynasty of Nepherites and Achoris maintained a Greek alliance; and the 30th Sebennytic, consisted of Nectanebes I., who successfully resisted Pharnabazus, and Iphicrates, of Tecs who employed Agesilaus, and of Nectanebes II. who fled into Ethiopia before the Persians (340 B.C.).

From this time E. remained a province of Persia till its conquest by Alexander the Great, who founded Alexandria (332 B.C.). Subsequently E. passed under Greek rule, and the language of the government, and the administration and philosophy became essentially Greek. The court of the Ptolemies became the centre of learning and philosophy, and Ptolemy Philadelphus, successful in his external wars, built the museum, founded the library of Alexandria, purchased the most valuable manuscripts, engaged the most celebrated professors, and had the Septuagint translation made of the Hebrew Scriptures and the Egyptian history of Manetho drawn up. His successor, Euergetes, pushed the southern limits of his empire to Axum. Philopator (221-204 B.C.) warred with Antiochus, persecuted the Jews, and encouraged learning. Epiphanes (204-180 B.C.) encountered repeated rebellions, and was succeeded by Philometor (180-145 B.C.) and Euergetes II. (145-116 B.C.), by Soter II. and Cleopatra till 106 B.C., and by Alexander (86 B.C.), under whom Thebes rebelled; then by Cleopatra Berenice, Alexander II. (80 B.C.), and Neos Dionysus (51 B.C.), and finally by the celebrated Cleopatra. After the battle of Actium (31 B.C.) E. passed into the condition of a province of Rome, governed always by a Roman governor of the equestrian, not senatorial, rank.

The most important events in E. under the Roman rule were: The introduction of the Julian year by Augustus (25 B.C.), the visit of Vespasian to Alexandria (70 A.D.), and that of Hadrian (122), the development of the Gnostic heresy, the visit of Caracalla (211), the conquest of E. by Zenobia (270), the revolt of Firmus (272), the persecution of Diocletian (304), and the rise of Manicheism, the great Arian controversy in the reign of Constantine, the rise of asceticism, magic, and astrology, and the final destruction of paganism (379).

At the division of the empire (395), E. fell to the Eastern empire, and at its fall had become one of the great patriarchates of the Christian church; but owing to the religious feuds of the Jacobites and Melchites it became a province of Persia (616) for twelve years. The Coptic governor, John Mukowkis, governed E. in the name of Heraclius at the period of the Arab invasion (639), and, perceiving in the invaders a means of escape from the detested rule of the Greeks, submitted, after a perfunctory resistance, to the Arab general, 'Amr ibn el-Asi, who took Alexandria (641), and soon made the whole country a province of the calif 'Omar.

History Since the Mohammedan Conquest. Although Alexandria was retaken by Constans II., the Arabs drove him out, and E. remained an appanage of the califat, and was ruled by Arab governors. One of these, Ahmed ibn Túlún, made himself practically independent, annexed Syria, and founded the dynasty of the Túlúnis (868-905), renowned for its luxury and noble buildings. Another governor followed his example, and established the dynasty of the Ikhsidis (935-969). This in turn gave place to the heretical (Shi'ah) line of the Fátimi califs (q.v.), who advanced from their capital at Kayrawán, conquered E., and founded modern Cairo (969), with some of the principal mosques and the Azhar university (see CAIRO). One of this line, the mad calif El Hákim, was the founder of the sect of the Druses (q.v.), who still pay him divine honors, and expect his return to rule the world. The reign of El Mustansir was marked by civil war, persecution of Christians, and a fearful famine which lasted seven years, and depopulated whole quarters of Cairo. The Fátimis were deposed by the Kurd general, Saláh ed-din (1169-93), son of Ayyub, commonly called Saladin (q.v.), who fortified Cairo and built the citadel. He waged war against the Crusaders, and annexed the greater part of Syria and Mesopotamia. In 1218 the Crusaders made an attack upon E. and took Damietta, but the Ayyubi sultan, El Kámil, nephew of Saladin, utterly defeated Jean de Brienne, and drove the invaders away. The attempt of St. Louis, thirty years later, ended in the surrender of the French king and all his army to the Mamelukes (Mamlúks). It was the last of Saladin's line, Es Salih Ayyub, who introduced this famous bodyguard of Turkish Mamelukes, or white slaves, who, on his death, usurped the supreme power (1250). For more than two centuries and a half E. was governed by a succession of slave kings, called the Bahri, or Turkish, and the Burji, or Circassian, Mamelukes. These kings, who succeeded each other chiefly by virtue of force of arms, were distinguished for their valor, their administrative powers, their luxury, and their encouragement of the arts. They fought for the holy places of Palestine, and gallantly drove back the Mongol hordes; they exchanged embassies with France and Venice, with Persia and Abyssinia, and presented one of the most startling anomalies of history, the 'spectacle of a band of disorderly soldiers, to all appearance barbarians, prone to shed blood, tyrannous to their subjects, yet delighting in the delicate refinements which art could afford them in their home life, lavish in the endowment of pious foundations, magnificent in their mosques and palaces, and the noblest promoters of art, of literature, and of public works that E. had known since the days of Alexander the Great' (Lane-Poole, Art of the Saracens). Cairo (q.v.) is still full of their monuments, and Arabic literature owes them much. In 1517, however, this brilliant series of rulers came to an end on the conquest of E. by the Ottoman sultan, Selim I.

Nearly three centuries of weak and corrupt government by Turkish pashas, varied by revolt and rebellion of the Mameluke chiefs, bring us to the French invasion of Bonaparte in 1798. His conquest of Alexandria, and victory near the Pyramids over the Mamelukes, led to the temporary subjection of the country, from which the French were however soon expelled by the British in 1801, when the country was restored to the Porte. The accession of the Albanian soldier Mohammed Ali to the pashalik in 1805 imparted a salutary prosperity to E., by the merciless destruction of the turbulent Mamelukes, whom a disastrous British expedition in 1806 vainly sought to restore), the formation of a regular army, the increase of security, the improvement of the irrigation, and the introduction of the elements of European civilization. In 1816 Mohammed 'Ali reduced part of Arabia to his sway by the generalship of his son Ibrahim; in 1820 he annexed Nubia and part of the Soudan, and from 1821 to 1828 his troops, under Ibrahim, occupied various points in the Morea and Crete, to aid the Turks in their war with the insurgent Greeks. The Egyptian fleet was annihilated at Navarino, and Ibrahim remained in the Morea till forced to evacuate by the French army, under Maison, in 1828. In 1831 Ibrahim began the conquest of Syria, and in the following year totally routed the Ottoman army at Koniya, after which the Porte ceded Syria to Mohammed 'Ali on condition of tribute. War breaking out again, the victory of Nisib in 1839 would perhaps have elevated him to the throne of Constantinople; but the quadruple alliance in 1840, the fall of St. Jean d'Acre to the British, and the consequent evacuation of Syria, compelled him to limit his ambition to the pashalik of E. In 1848 Mohammed 'Ali became imbecile (he died in 1849), and his son Ibrahim sat on his throne for two months, when he died, and was succeeded by 'Abbâs Pasha, Mohammed 'Ali's grandson, superseded in turn by Sa'id Pasha, youngest son of Mohammed 'Ali, in 1854. M. de Lesseps now obtained the co-operation, hitherto withheld, of the Egyptian government in his scheme of the Suez Canal (q.v.), which was opened in 1869. Sa'id was succeeded in 1863 by his nephew, Isma'il, son of Ibrahim, who, by a firman purchased from the sultan, took in 1866 the hereditary title of khedive.

The same firman made the succession to the throne of E. direct from father to son, instead of descending, according to Turkish law, to the eldest male of the family; and in 1872 the sultan granted to the khedive the rights (withdrawn in 1879) of concluding treaties and of maintaining an army, and virtually gave him sovereign powers. Thus secure on a hereditary throne, Isma'il began a series of vast internal reforms, built roads, bridges, lighthouses, laid down railways and telegraphs, reconstructed the postal service, improved the harbors at Suez, Port Sa'id, and Alexandria, supported education, and introduced mixed courts of law. Extending his dominions southward, he annexed Dar-Fûr in 1874, and in that and the following year further conquests were made. Through Sir Samuel Baker and Charles Gordon, governors of the Soudan, the khedive endeavored to suppress the slave trade in his dominions. In order to provide funds for his vast undertakings, in 1875 he sold to Great Britain 177,000 shares in the Suez Canal for $20,000,000. The condition of the Egyptian finances, however, loaded by heavy loans, was almost hopelessly involved; various distinguished financiers were sent from England to endeavor to arrange a solvent system, and after many inquiries and several failures, a dual English and French control was established, and the finances were placed entirely under European management. A promise of constitutional government ended in 1879 in the summary dismissal of Nubar Pasha's ministry, and this brought about the peremptory interference of the European governments. The khedive who declined voluntarily to abdicate, was, at the instance of the western powers, deposed by his suzerain the sultan, 1879, June, and Prince Tewfik, Isma'il's eldest son, was proclaimed khedive.

A law of liquidation, for regulating the conditions of the public debt was passed at the instance of five European powers in 1880. In the next year came the military revolt under Arábi Pasha, who demanded from the khedive an immediate change of ministry and the increase of the army to 18,000 men. The khedive yielded. Growing dislike to European interference and to the presence of European officials secured Arábi a large measure of popular support when, as War Minister he dominated the khedive and ultimately defied his authority. He was practically a military dictator and in 1882 British and French war ships were dispatched to Alexandria to overawe the rebels, but their appearance was followed in June by rioting and massacres of Europeans in the streets. Meanwhile Arábi was strengthening the fortifications. The British admiral demanded that the work should be discontinued; Arábi persisted; the French sailed away in dismay, and the British ships bombarded the fortifications, July 11. The Egyptian troops were secretly withdrawn from Alexandria, whereupon the city was plundered and partly burned by Egyptian rioters, while the British admiral, Sir B. Seymour (Lord Alcester), was apparently unable to land a force to restore order until the third day, when he occupied the city until the arrival of troops under Sir A. Alison, who kept Arábi in check behind his lines at Kafr Dawar. Meanwhile Sir Garnet Wolseley hurried out with more troops from England, and other regiments (some sepoys) were dispatched from India; the point of debarkation was Ismailia, on the Suez Canal; and in twenty-five days the British forces under Wolseley had traversed the desert, utterly defeated the main body of Arábi's army at Tell-el-Kebir, and occupied Cairo. Arábi was tried, pleaded guilty, and was banished to Ceylon. The authority of the khedive being thus restored, most of the British troops were withdrawn, and measures taken for the reorganization of the country. The French, who had been associated with England in what was known as the Dual Control, took no share in the bombardment, in the military expedition, or in direct co-operation with England in the re-arrangement of Egyptian affairs on a fair basis. The aim of the English Cabinet was to secure, as soon as possible, a firm and lasting government under the khedive, but a large measure of interference with the Egyptian government was for the time being inevitable. Lord Dufferin proceeded to Cairo after the war, and drew up a constitution which has not, so far, been severely tested; and Sir E. Baring continued the task of organization. But the attempt to persuade the khedive's government to rule according to British ideas, and to get British officials and their Egyptian colleagues to work smoothly together, led to repeated crises and changes of plan. A conference of the great powers in 1884 did not sanction the English scheme for managing Egyptian finance; and Britain had consequently to resume her exclusive responsibility in E. Whatever good was accruing to E. under British rule was seriously marred by the severe visitation of cholera which occurred in the summer of 1883, when 150,000 persons perished, and still more by the rebellion in the Soudan.

The Rebellion in the Soudan. Arábi's revolt and its consequences loosened the hold of E. on the Soudan (q. v.), which by Baker's annexations in 1874 and following years had gradually extended to the shores of the Victoria Nyanza. A widespread rebellion broke out in Dar Fúr and Kordofan under Mohammed Ahmed, calling himself the Mahdi, a word meaning 'the guided by God.' The doctrine of the Mahdi, a kind of Mohammedan Messiah, is explained under the article ISMAILIS; see also MOHAMMEDANISM and KARMATHIANS. The modern Mahdi, however, is not necessarily a descendant of Ali, or a resuscitated Imam, but he put himself forward as a prophet whose mission was to free Islam from external enemies and re-establish the pure primitive faith. Mohammed Ahmed was born at Dongola about 1843, educated near Khartoum, and then spent fifteen years in fasting and retirement in the island of Aba, whence he at length sent emissaries to preach the doom of Turkish rule in the Soudan, and the advent of the true Mahdi. An attempt of Raûf, the governor-general, to suppress this propaganda was resisted with bloodshed in 1881, August, and thenceforward the movement spread rapidly. In 1883, January, Sennaar revolted, and the Mahdi occupied El Obeyd. An army now sent against him by the Egyptian government under an English officer, Hicks Pasha, was annihilated near El Obeyd in 1883, November. The Mahdi's influence extended to the Red Sea shores. An Egyptian force under Consul Moncrieff was routed with severe loss in the same month near Suakin, and Baker Pasha was twice disastrously defeated at Teb and Tamanieb, early in 1884, but these reverses were afterward wiped out by the hard-won successes of a British expedition under Sir G. Graham. Meanwhile, in 1884, January, General Charles George Gordon (q. v.) had gone at the request of Mr. Gladstone's government as English representative to Khartoum to secure the withdrawal of the Egyptian garrisons from the Soudan, E. having, on the advice of England, agreed to give up all her possessions in the Soudan save the Red Sea littoral. Gordon, though supported by only one other English officer, gallantly maintained his position in Khartoum against the Mahdi's followers and even ventured successfully on the aggressive. He had found, however, that he had attempted an impossible task; he could not leave the garrisons to fall into the hands of the Mahdi, and he required reinforcements of British troops before he could drive the latter from the neighborhood of Khartoum. Timidity and indecision marked the whole of the policy of the English government both toward the Soudan and the Red Sea littoral. At last, too late, in 1884, October, an English expedition under Lord Wolseley was dispatched to Khartoum, and, selecting the difficult and tedious route up the Nile, arrived in touch of Khartoum only to learn that the heroic Gordon had been assassinated two days before (1885, Jan. 26). The expedition thereupon withdrew, without attempting to retaliate, and the Soudan was left to enjoy its anarchy, save for occasional, not very resolute, military operations around Suâkin. One of Gordon's lieutenants, Dr. Schnitzler (q.v.), known as Emin Pasha, was still holding out in the equatorial regions in 1888, when he was visited by the explorer Stanley at the head of a relief expedition. The Mahdi is dead, and his calif Abdallah reigns in his stead. On the abandonment of the upper Nubia and the Soudan, Wady Halfa was fixed upon by the British as the provisional southern boundary of E., and each year since then the garrison has been harassed by annoying though unsuccessful attacks made by bands of dervishes from Dongola and Berber. In the year 1888 the Calif Abdallah, aroused by the growing success of Sheikh Senoussi advancing from Tripoli into the Soudan, gathered a force to make a serious attack on Wady Halfa; for he found that some energetic movement was indispensable if he was to retain the allegiance of the Kabbabish and other tribes. The calif's most trusted general, Wad el N'juma, collected a force of 8,000 men at Dongola, and though the vanguard setting out in April was severely defeated and repulsed by the Egyptian pickets at Serra, the main body started from Sarres in the desert in June. The plan was to turn the position at Wady Halfa by marching past it through the desert. But the garrison at Assouan was immediately strengthened, and the British army of occupation moved south and took up a position in the rear of the Egyptian forces. Wad el N'juma sent inflated proclamations to Queen Victoria, ordering her to embrace Mohammedanism on pain of death. Meanwhile he was in the utmost straits to procure water for his motley army of 14,000 souls, the Nile being vigilantly patrolled by gun-boats. He made one desperate effort to reach the bank at Argum on July 2, but was repulsed with a loss of over one thousand killed and captured.

Wad el N'juma then pushed north, making toward Assouan, and the Egyptians in their steamers paralleled his march. The west bank of the river had been stripped bare of both crops and inhabitants by General Grenfell, so that, even though the natives were in full sympathy with the invaders, they could render them no assistance. By the middle of July half the dervish forces had melted away. Wad el N'juma resumed his northern march from his camp at Khor near Abu Simbel on July 28, and on Aug. 1 reached Toski, where he found General Grenfell waiting for him.

After seven hours of severe fighting, the dervish army was utterly routed, Wad el N'juma and half of his remaining men killed, while the miserable survivors fled southward through the desert under the fire of the gun-boats.

During the past year (1890) Emin Pasha has succeeded in reaching his old provinces by the Zanzibar route, and seems to have a good prospect of re-establishing his authority. The Mahdi's power is much broken, and the Soudan is in a wretched state, but what England's policy with regard to its re-annexation to E. will be it would be rash to predict. During 1890 a serious revolt against the authority of the califa broke out at Darfur and Kordofan. Early in 1892 January the khedive, Tewfik Pasha, was taken ill with influenza which developed into pneumonia. No alarm was felt at first, but his highness obstinately preferring the attendance of his native physicians an overdose of morphine was given him, and when the European physicians were summoned it was too late: the khedive was already in extremis. The wild rumors circulated in Cairo that the khedive was purposely poisoned at the instigation of the British were on their face absurd, Tewfik's death being a distinct loss and embarrassment to the English government. Tewfik was at once succeeded, without any interval of regency, by his eldest son, Abbas Pasha, a youth of 17, who at the time of his father's death, was traveling in Austria. His education having been cosmopolitan, he is not supposed to entertain strong pro-British views, but doubtless he will be taught the advantage of docility. He was at once confirmed by the sultan, and returning to Cairo with all speed took up the duties of his high office.

Statistics of Modern Egypt. The area of E. proper is now (It southern frontier having reverted to Wady Halfa) 12,976 sq. m. omitting the desert regions between the Nile and the Red Sea, El-Arish in Syria, and the Libyan desert with its oases; the inclusion of these would make the area about 393,000 sq. m., and at the census of 1882 its population was 6,806,381 (including 3,923 in the territory of El Arish in Asia). With the territories in central Africa, now no longer Egyptian, the area of Egyptian domains was estimated at 1,150,000 sq. m., with a population of 17,000,000. The chief towns of E. proper are Cairo (pop. 1882, 368,000); Alexandria (208,000); Damietta (34,000); Tantah (34,000); Mansourah (27,000); Zagazig (19,000); Rosetta (17,000); Port Sa'id (16,500); Suez (11,000). There are in E. about 90,000 foreigners, including 37,000 Greeks, 19,000 Italians, 16,000 Frenchmen, and 6,000 Englishmen. The Egyptian army is under the command of an English general, and officered partly by Englishmen and partly by Egyptians; its total strength in 1888 was 9,400, while the English army of occupation, which, since the rebellion of 1882, had remained in E., had a strength of 3,490. The revenue in 1887 was $47,885,550, the expenditure $45,856,750; showing an increase of revenue and a decrease of expenditure as compared with the average for the five preceding years. In 1882 the revenue fell to $43,203,640; in 1883 the expenditure was as high as $50,357,305. The total debt of E. amounted at the end of 1888 to about $520,000,000, the interest on which was met by a charge of over $21,679,500, in the year's budget, exclusive of the tribute to Turkey ($3,375,600). The total exports in 1887 (chiefly cotton, cotton-seed, beans, sugar, and grain), were valued at $54,101,750 (of which about two-thirds went to Britain); the imports (mainly cotton goods and other textiles, machinery, and coal) at $40,478,100 (mostly from Britain). The total for 1886 was $89,428,286; the average for five years $98,353,042. The railway system embraces over 1,250 miles, connecting Alexandria and Damietta with Cairo and the Suez Canal, and extending up the Nile Valley as far south as Siout; the telegraph lines reach nearly 5,200 miles, and there is a telephone between **Cairo and Alexandria.**

See Soudan, Nubia, Kordofan, Dar Fûr, Baker, Gordon, Harar, etc. For descriptions of some of the most important monuments, see Abu Simbel, Abydos, Alexandria, Denderah, Edfu, Esné, Fayûm, Memphis, Obelisk, Philæ, Pyramid, Thebes.

For further information on E., its history, antiquities, and present condition, see Bunsen, Aegyptens Stelle (1844-57); Lepsius, Denkmäler (1849-74) and other works; Sharpe, History of Egypt (1846); the works by Brugsch (q.v.); Sir Gardner Wilkinson, Manners and Customs of the Ancient Egyptians (1847, new ed. by Birch, 1879); Mariette, Monuments of Upper Egypt (1877); Maspero, Histoire ancien des Peuples de l'Orient (1878) and Egyptian Archaeology (Eng. trans., 1887); A. B. Edwards, A Thousand Miles up the Nile (1876); Lane, Modern Egyptians (1836, new ed., 1871); M'Coan, Egypt as It Is (1877); Rawlinson's History of Ancient Egypt (1881), and Ancient Egypt (Story of the Nations series, 1887); S. Lane Poole's Egypt (1881), and Art of the Saracens (1886); Dicey, England and Egypt (1881); Ebers, Egypt, Historical and Descriptive (Eng. trans., new ed., 2 vols., 1887); De Leon, Egypt Under Its Khedives (1882); Villiers Stuart, Egypt After the War (1883); Sir Mackenzie Wallace, Egypt and the Egyptian Question (1883); the **Memoirs of the Egypt Exploration Fund** (founded 1883); Darmesteter, The Mahdi (1885); Journals of General Gordon (1885); Sir C. Wilson, From Korti to Khartûm (1885); C. Royle, Egyptian Campaigns, 1882-85 (2 vols., 1886); Baedeker's Egypt (2d Eng. ed., 1885); Murray's Handbook for Travelers in Upper and Lower Egypt (7th ed., 1888); and other works cited at Dead, Book of the; and by Prince Ibrahim Hilmy in The Literature of Egypt and **the Soudan (2 vols., Lond., 1886-88).**

ENGLAND, *ing'-gland*, is the southern, the larger, and by far the more populous portion of Great Britain, the largest and most important of European islands. Separated from Belgium, Holland, Germany, and Denmark by the North Sea, from France by another 'streak of silver sea,' the Channel, and from Ireland by St. George's Channel and the Irish Sea, the kingdom of E. and Wales has only one short land frontier, that toward Scotland. In shape it forms an irregular triangle, of which the eastern side measures in a straight line 350 miles, the southern 325 miles, the western 425; but its shores are so deeply indented by bays and estuaries as to make the coast line longer in proportion to the size of the land than in any other country but Scotland and Greece.

E. has for hundreds of years been one of the leading powers of Europe, one of the great moving forces of the world, and, through her colonies, a veritable mother of nations; but her area is relatively very small. The area of the British Islands (121,481 sq. m.) is but one sixteen hundredth of the surface of the world. The colonies and dependencies of the empire of which E. is the centre cover a seventh of the land area of the globe. E. without Wales (51,000 sq. m.) is about the size of Roumania, less than a fourth of France or of Germany, and is but little larger than the single state of New York (49,170 sq. m.); and E. with Wales (58,000) is not equal in area to the state of Georgia (59,475), and is not a fourth of the size of Texas. Twenty-nine of the states in the Union are each larger than E., several much larger than the whole United Kingdom.

Her name 'this noble realm of E.' owes to the Engle, or Angles, who with the kindred Jutes (*Geatas*) and Saxons (*Seaxe*) descended on the greater part of what used to be known as Albion, or Britain, (see BRITANNIA), conquered and occupied it in the 5th and following centuries (see ANGLES, ANGLO-SAXONS). These kindred peoples all learned to call themselves *Englisc*, or English, and by *England* they understood the whole area now occupied by them—an area which in the 7th century extended over more than half of the island from the Forth to the English Channel. South-eastern Scotland as occupied by Angles, and not by Saxons, or Jutes, was in the stricter sense English; and the people of the non-Celtic parts of Scotland, though now markedly differing from the southern English, are in blood and in mental and physical type at least as English in the wider sense as the people of Oxford or Kent. Political circumstances led the English and Anglicized Celts of North Britain beyond Solway and Tweed to become the subjects of the alien Scottish king, but their language they still called *Inglis*, as distinguished from the Erse of their Scottish or Gaelic fellow-countrymen.

The people of the southern kingdom constitute nearly three-fourths of the inhabitants of the three kingdoms; the English language in some form is that of all but a small minority in any of the three; the English literature is the common inheritance of the whole; the constitution and polity of E., slightly modified, is the British constitution under which the three kingdoms have unitedly become glorious, and has been the original model for the free constitutions of all free peoples the whole world over. Hence it is not strange that not merely by Englishmen, but by all foreigners, the name of E. is used for what, after the union of Scotland and E. in 1707, became officially Great Britain, and even for the whole empire, which since the Irish Union of 1801, is strictly the United Kingdom of Great Britain and Ireland.

The physical features, as also the geology, of the British Islands are obviously so closely connected that it is convenient to treat of them collectively under the head of GREAT BRITAIN AND IRELAND. There also the general facts and figures had to be given which concern the three kingdoms jointly—exports, imports, trade, shipping, etc., except in so far as they are separately discussed under such heads as AGRICULTURE, ARMY, COLONIES, COUNTY, EDUCATION, EMIGRATION, NAVY, PARLIAMENT, RAILWAYS, etc. Here, on the other hand, some of the facts distinctive of E., which admit of being succinctly stated, may well be noted.

The area of E. without Wales is 50,823 sq. m.; that of Wales, 7,363; together 58,186. So that, as the area of the United Kingdom, with Scotland, Ireland, Man, and the Channel Islands is 121,481, E. alone covers 42 per cent. of the whole, Wales 6, and E. and Wales 48 per cent. The population of E. and Wales in 1600 is estimated to have been 5,000,000, the increase up to that date having been slow. In 1700 it was probably 6,000,000. From that date the increase was rapid; and the census of 1801 showed a population of 8,892,536. In 1841 the population of E. alone was 15,002,443; in 1851 it was 16,921,888; in 1861, 18,954,444; in 1871, 21,495,331 That of Wales was at the corresponding dates 911,705; 1,005,721; 1,111,780, 1,217,135. At the census of 1881, E. had 24,613,926, and Wales 1,360,513, or together 25,974,439. So that in that year the population of E. alone was 69.8 per cent. of the total population of the United Kingdom (35,241,482); of Wales, 3.8; and of the two, 73.6. In 1888 the total population was estimated at 37,453,574, and the percentage of E. and Wales may be set down in round numbers as making up more than 76 per cent., or three fourths of the total population of the United Kingdom. The population of E. and Wales was computed from the tables of births and deaths to be 1889, June 30, 29,015,613; of Scotland, 4,077,070; and of Ireland, 4,716,209; or in all, 37,808,892, not counting soldiers and sailors, etc., abroad, so that the percentage of E. and Wales would be 76.7 per cent. of the whole. The density of the population in E. is greater than in any other European country except Belgium. In 1881 it was for E. alone 484 per sq. m.; for E. and Wales, 446; whereas for Scotland it was only 125. In E. and Wales there were, in 1881, 19 towns with more than 100,000 inhabitants (in 1888, 22 such towns), in Scotland only 6, in Ireland 3. In E. there were 45 above 50,000, in Scotland 6, in Ireland 3.

COUNTIES.	AREA IN STATUTE ACRES.	POPULATION.
Bedford	294,983	149,473
Berks	462,210	218,363
Buckingham	477,151	176,323
Cambridge	524,935	185,594
Chester	657,123	644,037
Cornwall	863,665	330,686
Cumberland	970,161	250,647
Derby	658,624	461,914
Devon	1,655,208	603,595
Dorset	627,265	191,028
Durham	647,592	867,258
Essex	987,032	576,434
Gloucester	783,699	572,433
Hampshire	1,037,764	593,470
Hereford	532,918	121,062
Hertford	405,141	203,069
Huntingdon	229,515	59,491
Kent	995,392	977,706
Lancashire	1,208,154	3,454,441
Leicester	511,907	321,258
Lincoln	1,767,879	469,919
Middlesex	181,317	2,920,485
Monmouth	379,350	211,267
Norfolk	1,356,173	444,749
Northampton	629,912	272,555
Northumberland	1,290,312	434,086
Nottingham	527,752	391,815
Oxford	483,621	179,559
Rutland	94,889	21,434
Shropshire	844,565	248,014
Somerset	1,049,812	469,109
Stafford	748,433	981,013
Suffolk	944,060	356,893
Surrey	485,129	1,436,899
Sussex	932,359	490,505
Warwick	566,271	737,339
Westmoreland	500,906	64,191
Wiltshire	866,677	258,965
Worcester	472,453	380,283
York	3,882,851	2,886,564
Total of England	32,597,070	24,613,926
Total of the twelve Welsh Counties	4,742,281	1,360,513
Total of England and Wales	37,339,351	25,974,439

The preceding table shows the area in acres and population of the forty counties of E., at the census of 1881.

For the Welsh counties, see WALES. The areas of the English counties are given in square miles in the articles on the counties.

The climate of Britain is insular and comparatively equable, milder on the whole than that of any region on the same northern parallel (see CLIMATE), with smaller extremes of heat and cold, with colder summers and warmer winters. E. is milder than Scotland, and though moist compared with continental countries, less moist than Ireland. In spite of its dull skies and frequent rains, it was wisely said by Charles II. that the English climate 'invited men abroad more days in the year and more hours in the day than any other country.'

The situation of Britain has been shown to be in the very centre of the land masses of the globe, a very great advantage for commerce and navigation; E., being nearer the European shores, enjoys the advantage in higher measure than its sister-kingdoms. Its seas are less stormy, and it has a greatly more developed system of navigable rivers.

The north-west of E. is mountainous and hilly, the east and south mainly a plain crossed by lines of low hills. The fertility of E. is much greater than that of Scotland or Ireland, especially that of the wheat-bearing area of eastern E. The agriculturally productive area of E. is estimated at 80 per cent. of its total, and of Wales 60 per cent., whereas that of Scotland is only 28.8 per cent., and of Ireland 74. E., whose surface has been said for variety to be an epitome of Europe, is very rich in minerals, of which coal and iron are incomparably the most important, making nine-tenths in value of the whole. The output of coal and iron in E. is vastly greater than in Scotland, and Ireland is exceptionally poor in both.

Of the population of E. it is impossible to say what proportions belong to the various racial elements that have gone to form it. A non-Aryan race, perhaps Euskarian, must have preceded the Celts, who conquered and assimilated them: the Celts (q.v.) are still the predominant race in Wales. The Roman armies introduced into the towns a considerable element, comprising doubtless Gauls, Germans, Iberians, Italians, Dacians, Phrygians, and the other various races who went to constitute the legions of the empire. Danes and Norman-French were the latest people who came in large numbers. But the great problem is: Did the Teutonic Angles, Saxons, and Jutes exterminate their predecessors the Celtic Britons, or did they over great part of the country mainly assimilate them? (See the history below.)

What is certain is that out of these various stocks a well-marked race has been formed, strenuous, self-reliant, resolute in defence of its rights, daring, laborious, industrious, and ambitious. Its essential character, with marked modifications, it has transmitted to the great daughter-nation of the United States, and to the colonies of Britain. And this race it is which has given its language and in part its institutions to over one hundred millions of the world's inhabitants, and, with the help of its Scottish and Irish kinsfolk, has created for its and their offspring a glorious heritage in the English literature. E. became the classic land of liberty, where the power of the state, based on ancient precedent, has been developed so as least to infringe on the freedom of the individual a development sketched in the succeeding history, and continued on similar lines in the United States.

E. became also the special home and headquarters of agricultural enterprise, mineral production, machine making of all kinds and steam power, of commerce, navigation, and shipping. E. did not start in the race of commerce as early as many of those who are still her rivals. Long after France, Flanders, and parts of Germany were great manufacturing centres E. was an agricultural and pastoral country, wool its chief production and staple export. The woollen goods for its own use were mostly manufactured abroad. Edward I. did much to encourage such trade as there was in opening English ports to foreign merchants, and Edward III. induced many weavers, dyers, and fullers from Flanders to settle in E. In the 14th century woollen cloth was manufactured at Bristol, London, and Norwich, and began to be exported. Linen and silk weaving became of some importance. Coal was exported from Newcastle to France in 1325; but it was later ere English cutlery was known abroad. Great progress took place in

Elizabeth's reign; under James I. Scotland began to have a share in the commerce of the world; and the reign of William III. marked a new era, for the immigration of French refugees after the revocation of the Edict of Nantes in 1685 soon told on the quality and amount of English manufactures. But the great and rapid advance which made the commerce and manufactures of E. the wonder of the world dates from the latter half of the 18th century, and is largely owing to the unparalleled development of machinery, the use of steam as a motive power, improved communication, and later, steam navigation and railways.

It is very observable that the local distribution of the great industries of E. has changed very greatly since the 17th century. At the Revolution period most of the greater towns of E. were in the south and east; but these have now been long outstripped by northern rivals, and what were then important manufacturing towns have in many cases sunk into mere villages. After London, the chief towns were Bristol and Norwich, each with some 29,000 inhabitants. Exeter with 10,000 was probably equalled by York. Worcester and Nottingham may be set down at 8,000; while Leeds had but 7,000, Manchester hardly 6,000, Birmingham, Sheffield and Liverpool perhaps less than 4,000. Now English manufacturing industries have most of their special seats in the north. If we draw a line from the mouth of the Severn to the Wash, we find that to the south-east there are hardly ten towns not seaports or suburbs of London which have a population exceeding 25,000; to the north-west of the line there are above fifty inland towns of that size. It is very significant that all the coal of E. is found north of the line named, about or near the populous money-making towns.

The general figures that measure the vast commerce of the United Kingdom will be given for comparison with those of other countries at GREAT BRITAIN AND IRELAND. In many cases it is not possible to separate the shares proper to E., Scotland, and Ireland; but the greater wealth of E. may be shown by a few miscellaneous figures as to textile industry, the collecting of customs, and the assessments for income-tax.

There were in the United Kingdom at the time of the Report of the Inspectors of Factories in 1885 in all 2,635 cotton factories: of these E. and Wales had 2,481, Scotland 147, Ireland 7. Of woolen factories there were in all 1,948; of these 1,533 were in E. and Wales, 274 in Scotland, 141 in Ireland. In worsted factories the disproportion was still greater. There were 7,465 textile factories in all, of which 6,350 were in England, 776 in Scotland, and 340 in Ireland. The customs collected at London in 1888 were $48,185,561, at Liverpool $12,523,524, at other English ports, $[illegible],022,226, whereas the total collected in Scotland in that year was $6,945,477, and in Ireland $8,819,603. Though this indicates with approximate accuracy the movement of shipping, it is true that a share of the vessels in English ports belongs to Scottish owners, and Scotland builds in some years almost as large a tonnage as E. does. The total amount of the annual value of property and profits assessed to income-tax in 1888 in the United Kingdom was $3,082,580,125, the share of E. being $2,591,146,566, of Scotland, $280,763,052, and of Ireland, $176,760,846. Other figures of a similar kind will be seen under SAVINGS-BANKS.

In no way can a better conception be formed of the state of E. at different periods than from the works of topographers, foreign visitors, etc., such as Leland and Camden for the 16th century; Drayton and Fuller for the 17th; Defoe, Pennant, Pococke, Moritz, and Young for the 18th; Cobbett, Emerson, Hawthorne, Esquiros, Taine, Kohl, and Burroughs for the 19th. See also Escott, England: Her People, Polity, and Pursuits (1879, 2d ed. 1885); R. Grant White, England Without and Within (1881); Thorold Rogers, History of Agriculture and Prices in England (6 vols., 1866-88); T. H. Ward, The Reign of Queen Victoria: a Survey of Fifty Years of Progress (2 vols. 1887); A. Innes Shand, Half a Century of Changes (1887); W. Besant, Fifty Years Ago (1888); besides the government blue-books and other statistical annuals.

HISTORY OF ENGLAND.

Though the history of E. cannot properly be said to begin till the 5th century, when the English tribes who have given the country its name established themselves in the island, it is of some importance to understand the condition of the people whom they supplanted. There can be little doubt that, speaking generally, the inhabitants of the island when conquered by the Romans were of Celtic origin. They were not indeed entirely homogeneous; two distinct branches of the Celtic language were spoken, the Gauls of France are mentioned by Cæsar as having exercised authority over the island, the Belgæ had certainly established themselves there, and certain tribe names lead to the belief that men of Teutonic origin had already formed settlements. The island lying at the extremity of Europe had probably formed a natural refuge for tribes driven from their own lands, and a natural prey of those in search of new homes. But on the whole there can be little question that the population was Celtic. It had passed beyond the age of barbarism, and when Claudius determined to complete the conquest which Cæsar's temporary raid in 55 B.C. had fore-shadowed, some sort of general confederacy was in existence, a king of the name of Cunobelin reigned at Camulodunum, near Colchester, and the existence of not less than forty varieties of his coins bears witness to the greatness of his influence and the comparative civilization of his rule. His son, Caractacus, and, eleven years later, Boadicea, queen of the Iceni, opposed a long and terrible resistance to the Roman arms; but the arrival of Agricola in 78, and his eight years of wise government, brought the country at length into the condition of a Roman province. The conquest of the whole island was, however, never completed. It seemed good to the Romans to limit their successes, and to attempt by great defensive works to exclude from their dominions the still unconquered Celts of the north. Lines were erected between the Firths of Forth and Clyde, and between Bowness and the mouth of the Tyne. The intermediate district was a scene of constant warfare, both lines were from time to time strengthened, and the more southern of the two changed during the 4th century into the great Roman wall (see SEVERUS, WALL OF). Within this limit the occupation of the country was complete. For two centuries it was probably merely a military occupation, and at no time does it appear that there were more than 20,000 Roman soldiers in the province; but as time passed on it appears certain that the influence of the conquerors became largely felt. Towns, the remains of which still exist, were built, bringing with them of necessity the close intercourse of trade, and numerous traces of villas in many parts of the country show the spread of peaceful Roman life. It was the policy of Rome in its provinces to debar the middle classes from the use of arms, and though possibly, as in India at present, the native nobles and princes were allowed to keep in some degree their rank, it was under the shelter of the Roman legionaries that civilization advanced, and upon their prowess that safety from the threatened encroachments of unconquered Celts or marauding Teutons was secured. It is impossible to say how far civilization had extended, or how far the language had been influenced by the Roman occupation. The close resemblance of many common agricultural terms, of the names of plants and so on, to Latin words would lead to the belief that the language was Latinized. On the other hand, local names, the names of woods, mountains and rivers, are largely Celtic. It seems not improbable that both Roman civilization and Roman speech were chiefly concentrated along the great roads and round the cities and stations with which these were lined.

The disturbances of the empire, and the danger which threatened it from the pressure of the outlying barbarians, compelled in 411 the withdrawal of the legions, and the half Romanized inhabitants who had learned to rest on the support and valor of their conquerors were left to their own resources to withstand the unconquered Celts of the north, now known as Picts, and their piratical allies the Irish Scots. The movement of the barbarians had affected the people on the borders of the North Sea; the Jutes from Jutland, the Angles from Sleswick, the Saxons from Holstein and the neighboring coasts were covering the sea with their expeditions. Summoned to the assistance of the civilized Britons, a party of Jutes landed [illegible] to establish themselves in Kent. It was an example readily followed. Before the year 600 Saxons and Angles had formed settlements extending as far north as the Forth. About that year the various principalities may be regarded as merged in two considerable and rival powers, Northumbria and Kent; while a third, Wessex, fated ultimately to devour the other two, lay along the south, at present interested in extending its power westward. It still remains a question whether the invaders destroyed the conquered inhabitants or not. On the strength of certain expressions in the chronicler Gildas it has been held that no quarter was shown; but it is more probable that, as in other cases of conquest, the invaders settled down in the midst of the conquered population, content to rule as manorial lords over their own free followers, and the slaves and dependents of their predecessors.

It was long before the various settlements of the Saxons were fused into one. Long before political union was reached, the unity of the people found expression in a single Christian church. While the powers of Northumbria and Kent were still balanced, the marriage of the king of Kent with a Frankish princess offered an opportunity for the evangelization of the country. Augustine and his fellow-missionaries landed in Thanet in 596 and, well received by the king, found a home in Canterbury. A similar circumstance brought Christianity to the north; a Kentish princess married to Edwin of Northumbria took with her Paulinus, and established Christianity in York. The change of religion went near to destroying the Northumbrian power. Heathenism found a champion, and Penda, uniting the central tribes into the kingdom of Mercia, for a while established his supremacy over Northumbria, and drove the Roman priesthood to flight. The gap thus left was supplied by the devoted missionaries of the Celtic Church settled in Lindisfarne. But the restoration of the Northumbrian power was fatal alike to heathenism and to the Celtic Church. After the Council of Whitby in 664, the Roman Church regained predominance, and was organized in a single archiepiscopal see by Theodore of Tarsus, holding his appointment from Rome. After the fall of Penda, the supremacy of the northern kingdom was unquestioned, till some sixty years later it gave way to Mercia. About the year 800, however, both Mercia and Northumbria had to yield to the third power. Egbert, king of Wessex, who had seen something of centralization in the court of Charlemagne, during the thirty-six years of his reign gradually brought under his power all the English kingdoms, whether Anglian or Saxon, and continuing the hereditary struggle of his people with the British populations, established a permanent superiority over all E., with the exception of the Britons north of the Dee.

But already an enemy had made its appearance to which the newly centralized kingdom was to yield. The Danes, issuing from the Scandinavian coasts, had before the death of Egbert begun to harry the country. At first as robbers, then as settlers, and finally as conquerors, for two centuries they occupy English history. During the reign of Ethelred their incessant but isolated incursions assumed the form of an invasion. East Anglia passed into their hands, and their leader, Guthrum, took to himself the title of king. For seven years Alfred on the throne of Wessex carried on a deadly struggle with this rival power and at length concluded a treaty of partition at the Peace of Wedmore (878), surrendering to the Danes the north and east of E., to be held by them as vassals of the Saxon king. The supremacy of Wessex was thus secured, and ripened in the following reigns into something little short of an imperial authority. Edward the Elder was not only recognized as the overlord of Mercia and Northumbria, but the Welsh kings swore alliance, and the kings of Scotland and Strathclyde acknowledged him as their father and lord; he treated on equal terms and contracted marriage alliances with the greatest princes of Europe. His position was fully vindicated by his son Athelstan, under whom, perhaps, the West Saxon monarchy reached its highest point of greatness. The decisive battle of Brunanburh, in 937, won over a complicated confederation, dealt a death-blow to all opponents. The reign of Edgar the Peaceful, and the government of his great minister Dunstan, closed the period of Saxon greatness. From this time onward weak kings, factious nobles, and a broken organization were unable to resist the renewed incursions of the Scandinavian tribes. The jealousies between the various sections of the people restrained by the strong central authority of the late kings broke out afresh. The northern kingdoms where Danish law prevailed afforded a natural support for the invaders. The alliance of king Ethelred with the Normans, and his marriage with Emma, a Norman princess, only added a fresh element of weakness by the presence of her foreign followers. Recourse was had in vain to large payments to the

Danes, and to the cruel and treacherous murder, on St. Brice's Day, 1002, of the Danes settled in Wessex. Ten years later all opposition had been overcome, and Sweyn, the leader of the invaders, was practically king of E. He was succeeded by his son Canute, and though a brief outburst of vigor under Edmund Ironside enabled the English to secure a division of the country, the death of their leader compelled them to submit to Canute. Under its Danish king E. was ably ruled, and was in some respects the head of a Scandinavian empire. But Canute's two sons failed to continue their father's work. Opportunity was allowed for the rise of Godwine, earl of Wessex, and on the death of Hardicanute in 1042, Edward the Confessor, the son of Ethelred, resting on the support of the great earl, re-established the house of Cerdic on the throne. Educated in Normandy, he surrounded himself with foreign friends, and filled the high places of the kingdom with Frenchmen. As leader and representative of the national feeling, Godwine succeeded after a while in driving the foreigners from the country, and establishing himself in a predominant position over the south of E. In the north the influence of the earls of Mercia prevented his absolute supremacy. He handed on both his power and his rivalry with the northern earls to his son Harold. Successful against his rivals, Harold placed most of the earldoms in the hands of his brothers. So completely was he recognized as the first of Englishmen, that upon the death of the king the Witan had no hesitation in electing him to the throne.

In thus choosing a king from beyond the limits of the royal family the Witan had transgressed a well-established English custom. A formidable rival claimant at once appeared. William, duke of Normandy, a cousin of the late king, demanded the throne as next of kin, and pleaded the promise of the Confessor. A second enemy threatened Harold: his brother Tostig had proved a traitor and had been banished; he now returned in company with the Norwegian fleet. The northern earls opposed him, and Harold, hastening to their assistance, won the battle of Stamford Bridge over the invaders. But the decentralized character of the English constitution and the strength of family rivalry made lengthened union impossible. When, three days after, 1066, Sept. 28, the Norman duke landed at Pevensey, it was single-handed and with hastily collected forces that Harold met him. The great battle of Senlac, near Hastings, was decisive, Harold and his brothers were slain and E. was left without a king. Again the jealousy between Wessex and Mercia pevented either a combined national opposition or the election to the throne of a native prince. William had little difficulty in slipping into the vacant post and securing his election by the Witan. The series of local efforts at opposition which followed his election proved unsuccessful, and by 1070 his authority was recognized throughout the country.

The change of dynasty thus effected connected E. with the great movements of the Continent. Up to this time it had been somewhat isolated. Though its church was in communion with Rome, and had frequent intercourse with it, it was distinctly a national church; though feudalism was rapidly advancing, it had pursued an independent and national course of development. It was in some degree as the champion of the great system of Western Christianity that William had put forward his claims, and he brought with him followers imbued with all the principles and forms of continental feudalism. All the varieties of class and of land tenure which had arisen spontaneously in E. were now assimilated to those existing where complete feudalism was in force; the connection with Rome was ratified by an entire change in the episcopacy. But William had no idea of assuming the position of a chief among equals, or of subordinating his authority to that of the church. He found in the organization of the conquered kingdom principles which enabled him, while using feudal language, to be in fact an absolute king, and to set such limits to the power of Rome as to keep the church virtually in subordination. The Norman kings, when not engrossed in foreign enterprises, were occupied in establishing, in opposition to the nobility and the church, that powerful monarchy which the Conqueror had established. They found in the old institution of the national militia an instrument with which to oppose the feudal levies of the barons. An administrative system centred in the crown and working chiefly through the machinery of the exchequer, went far to centralize the government. Triumphant suppression of insurrection-enabled them to get rid of the feudal baronage of the Conquest, while a new nobility of administrative origin and attached to the national system gradually took its place. But the death of Henry I., leaving only a daughter, Matilda, gave room for a disputed succession. All the discordant elements which the royal power had held in repression burst into life. The reign of Stephen was a time of constant civil war, during which the nation learned from the intolerable tyranny under which it groaned the value of the repressing hand of royalty. The miserable time was brought to a close chiefly by the mediation of the church. Matilda's son Henry, already a powerful prince in France, was accepted as the heir to the throne, and practically intrusted with the restoration of order. It was with the general concurrence of the nation that he was able to re-establish upon a broader and better basis the powerful monarchy of his predecessors. A series of great administrative reforms brought justice and finance into the hands of the king and his intimate council, or Curia Regis, and went far to break through the quasi-independence of the landowners. The suppression of a great insurrection affecting all his possessions, and supported by the kings of France and Scotland, left him unquestioned master of his kingdom so far as the baronage was concerned. His attempts to reduce the church to subordination were less successful; the opposition of Becket to the enactments of the Council of Clarendon produced a disastrous struggle with Rome. But though technically worsted, Henry's power suffered no serious diminution from his defeat. He handed on to his son a powerful and well-organized monarchy, in which the feeling of national unity had made great advances. His system proved strong enough to support the continued absence of Richard in the crusades and in his French dominions; national life even acquired increased strength by the self government which was thus forced on the administration.

In the hands of Richard's successor the evil effects of the enormous power concentrated in the crown became obvious. Boastful, tyrannical, and weak, John excited the anger of all classes. The disgrace he brought upon E—, the shock thus given to the rising feeling of national pride, afforded an opportunity for the exhibition of the discontent he had roused. He allowed himself to be stripped of all his French possessions; he plunged into a struggle with the Papal See, was excommunicated and deposed, and formally surrendered his crown into the hands of the pope. The nobility, freed from connection with the Continent and supported by all parties smarting alike from the evils of misgovernment and the shame of disaster, appeared as the true leaders of the nation, and wrung from the humbled king that great charter which secured in the form of a solemn treaty the foundations of the future liberties of E—. To make the charter a reality, and to secure the orderly development of these liberties, was the work of the great king Edward I. John's compact with the people proved insufficient to restrain the personal and capricious exercise of the royal power in the hands of his son Henry III. The surrender of the crown proved more of a reality than was expected. The Papal See, unable to establish a temporal suzerainty, mercilessly fleeced the people and the church, and the country was filled, as of old, with foreigners, on whom wealth and high places were lavished. The finances fell into utter decay. At length a demand for money to support, in the interest of Rome, the claims of the king's son to the throne of Sicily brought matters to a crisis, and in 1258 the barons passed the Provisions of Oxford, drove Henry's foreign favourites from the kingdom, and virtually superseded the crown by a committee of government. Henry's attempts to [illegible] these fetters had in 1264 produced an armed insurrection, and Simon de Montfort, at the head of the barons and the commonalty, or the towns, defeating the royal forces at Lewes, established a revolutionary government of which he was practically the master. But the jealousy with which the nobility regarded the rise of Montfort allowed Edward the prince of Wales to come forward as the leader of a party of [illegible] administration. His accession to the throne gave him an opportunity of carrying out his views. In the parliament of 1295, a complete representation of the estates, he gathered into a national centre all the scattered elements of representation and self-government which had long existed in the county courts. The principle that where all were concerned all should have a voice was acknowledged, and the national liberties were placed in the charge of an assembly in which all orders were included. At the same time the position of the crown was maintained and rendered effective by the large powers still left in the hands of the king's council. For many years the struggle between parliament and prerogative remained undecided, but, armed with the power of taxation, and taking advantage of the wants or weaknesses of the sovereign, the parliament continued to make good its position as the national council. At the close of Edward III.'s reign it was able to attack and impeach the ministry. The success of Richard II. in ridding himself of the influence of his uncles by which his youth had been surrounded, and his vehement assertion of the powers of the crown, produced a revolution which closed the struggle, and Henry IV. came to the throne with a parliamentary title, while the council nominated in parliament became in fact a body of national ministers.

The rise of parliament had gone hand in hand with the assertion of national life. Edward I. had not only marked out the lines the constitution was to follow, he had rid E of foreign influences. Busying himself but little with the Continent, he had devoted his attention to the conquest of Wales and Scotland. His death before the completion of his conquest of the northern kingdom allowed the Scots to inflict a final defeat upon his weaker son at Bannockburn. But the national feeling of the English, in abeyance during the political disturbances of Edward II.'s reign, reasserted itself in the ambitious efforts of Edward III. to place himself upon the throne of France, and was strengthened by the brilliant victories which attended them. Though the victories were useless, and the war a series of raids rather than a well considered conquest, the effects at home were of great importance. The continual want of money forced the crown to frequent concessions to the parliament; the spirit of the people was raised by success; and the life of the soldier played an important part in liberating the lower orders from serfdom. The villenage of earlier times had been gradually declining, and rent and wages were taking the place of villein tenure and forced service. The terrible ravages of the Black Death upset for a while the economic arrangements of the country, and the attempt to drive back the liberated serf to his old position caused the great rising of Wat Tyler in 1381. The insurrection was suppressed, but a death-blow was practically dealt to serfdom. In close connection with this upheaval of the working classes was the movement in opposition to the church. The doctrines of Wyclif and the Lollards, so much in harmony with the democratic movement, could not fail largely to influence it, and for a while hostility to the church played a considerable part in parliamentary history.

The completion of the constitutional system marked by the accession of Henry IV. did not prevent the recurrence of disorder, but during the reign of his son full harmony existed between the king and people. The disturbances which had broken out in France afforded an opportunity for renewing the war, and Henry V. found no difficulty in carrying the people with him in his victorious attacks upon that country. A statesman as well as a conqueror, his progress was very different from that of Edward III. The Treaty of Troyes seemed to promise the ultimate union of the two kingdoms but the work of consolidation was scarcely begun when the great king died, intimating to those who should carry on the work that the occupation of Normandy should be the limit of their aims. The foreign success and domestic harmony was of short duration. Though the power of the nobles as feudalists had disappeared they were still too strong to accept easily the co-operation of the other orders in a national system except from the hands of a powerful ruler. Their strength had been increased by the great positions given to the royal princes. The parliamentary establishment of the younger branch upon the throne had opened the door to the rival claims of hereditary succession. A strong government was scarcely possible during the infancy of Henry VI., especially as the control of regency found in the duke of Gloucester a man of ill-regulated ambition, an opponent with whom it was difficult to deal. His greater brother, the duke of Bedford, devoted himself chiefly to the affairs of France, and though he had succeeded in maintaining some degree of order in it, his early death was the signal for an outbreak with which the council and subsequently the young king proved unable to cope. Continual disaster in France still further discredited the government. Taking advantage of the claim of hereditary right, the duke of York came forward as the champion of order. The nobility ranged themselves on one side or the other of the contending parties, and the country became the seat of a cruel dynastic war. The Yorkists were victorious in the struggle. The death of their old and moderate leader placed at their head his son Edward, a man of great ability, imbued with the morality and principles of an Italian despot, and as the long regency had inevitably replaced in the hands of the council much of its independent power, Edward IV. found little difficulty in employing it for his own purposes. Parliament ceased to have much importance except to register the sovereign's will or to grant submissively the taxes he required. In the earlier struggles for national liberty the king had found his chief opponent in the baronage, and subsequently as leaders of the nation the nobles had exercised a great restraining influence. But in the internecine struggle of the Wars of the Roses they had committed political suicide, and Edward IV., surrounded by a nobility of his own creation, and armed with the powers of prerogative, which had never been formally abrogated, found himself able to establish a practical absolutism. The family dispute had not, however, reached its last act; Edward's successor, Richard III., rendered himself odious to all classes of the people, and the battle of Bosworth placed upon the throne a prince who claimed to be a representative of the Lancastrian house, and whose position was so far less absolute than his predecessors that he acknowledged that he was king by the will of the people.

The accession of Henry VII. and the Tudor house opens the second act of the drama of English history. The great principles of the middle ages had passed away; it was the age of the re-birth of learning; printing had been invented; firearms were superseding the lance and bow; the discovery of the western world was soon to excite the spirit of nautical enterprise; capital was taking the place of the restricted guild system; the inclosure of commons was changing the face of the country, depopulating the fields, and filling the cities; the church had begun to be shaken from its foundations. In the midst of this changed society the new dynasty had ascended the throne, claiming to rest upon the popular will, but invested with all the absolute authority with which the late reigns had surrounded the crown. It is not perhaps going too far to say that the king was endowed with temporary dictatorship. The typical representative of this phase of government is Henry VIII., a man in whom gross passion and unscrupulous determination to gratify his own will were curiously blended with a certain amount of culture and a real desire for the well-being of his people. Charged as it were with the duty of re-establishing an orderly national life upon a strong and stable basis, he plunged into war as a ready means of asserting national power. France and Spain were already on the threshold of their great struggle for the supremacy of Europe, and it was in strict accordance with the tradition of English policy that Henry allied himself with the Spanish house. But a change was speedily to pass over the foreign relations of E. Instigated by his passion for Anne Boleyn, Henry demanded a divorce from his Spanish wife; the opposition of the papacy precipitated the Reformation in E., and transferred the national hostility from France to Spain. The difficulties he encountered in his pursuit of the divorce brought him face to face with the one weak point in his position as absolute monarch. The possibility of the assertion of paramount authority by a foreign prince had been studiously hidden from him by his ecclesiastical minister, Cardinal Wolsey, who, himself master of the church, had thought to avoid all contest of authorities by devoting his power to the service of the crown. Such a possibility was now suddenly revealed to him. The fall of Wolsey and the substitution in his place of Thomas Cromwell supplied the king with a very able instrument for a high-handed assertion of the independence of the English Church. The movement found support in the excited animosity to the doctrines and practices of Rome which was filling Europe. Led by the energy of Cromwell, Henry proceeded beyond mere separation to the destruction of much of the apparatus of the old church. Reformed articles, an English Bible, the dissolution of the monasteries, seemed to secure a triumph for the advanced reformers. But the minister had overshot the desire of his master, and the reign closed amid Henry's efforts by even-handed severity to establish the supremacy of the crown without allowing the predominance of either party. So delicate an equilibrium could not be maintained. A burst of reforming zeal, supported by ministers of questionable character and still more questionable prudence, went far to destroy the position of E.; and it was not without a very general consensus in her favor that Mary, the champion of the old faith, ascended the throne. Unfortunately, her birth and natural prejudices led her to ally herself closely with Spain. A great reaction in favor of Roman Catholicism throughout Europe had begun; Spain was at the head of the movement, and there seemed every probability that E. would lose its national independence and be bound not only to the ecclesiastical supremacy of Rome, but to the temporal supremacy of Spain. Religious persecutions of a severity unknown in E. added strength to the angry feelings then excited. Protestantism and national independence were forced into connection, and it became the inevitable duty of Elizabeth on her accession to play her part as the supporter of this twofold cause. With the aid of her great minister Lord Burghley, she acted with consummate ability. Far too weak to oppose at once the powerful forces of united Catholicism, she contrived by a temporizing policy to avoid the dangers which would have attended an open defiance. She took advantage abroad of every opening for indirect support of the Protestant cause; at home, skilfully mingling politics and religion, without direct religious persecution she treated her opponents as traitors. She encouraged with all her woman's wit the feeling for nautical enterprise which was rife in the country; and at length, with the obstacles which had met her early course removed, firmly seated on her throne, and regarded both at home and abroad as the champion of Protestantism, she was able to bid defiance to the power of Spain and establish the supremacy of the English navy in the repulse of the Spanish Armada.

In carrying out the sweeping changes of his reign Henry VIII. had found the support of his people necessary. Even the settlement of the succession, though intrusted to Henry and carried out according to his wish, was arranged with parliamentary sanction. The co-operation of the people was still more necessary for Elizabeth. Throughout her reign the influence of parliament had been rising. Social changes had still further tended in this direction; if the old nobility had chiefly disappeared, a new nobility had taken its place, and the gentlemen of E., with property often increased from the monastic spoils, had become an important class. Though Elizabeth constantly assumed a masterful position with regard to her parliaments, she none the less listened to them and at times yielded to their remonstrances. It remained for the house of Stuart to force by unwise opposition this rising power into a position of supremacy. The death of the Virgin Queen seemed likely to open the question of the succession, but the crown passed without difficulty to the Scottish king, and the long delayed union of the two kingdoms under one ruler was accomplished. The parliamentary settlement of Henry VIII. had set aside the Scottish line; it was therefore by strict law of inheritance only that James found himself called to the throne. Trained in a different school of politics, and apparently succeeding by what it was the fashion of the time to speak of as 'divine right,' he failed entirely to understand the position of his predecessors. This misconception of his historical position handed on to his descendants was the cause of the disasters which attended their dynasty. Conceiving themselves possessed of the powers inherent in the old English crown, and determined to make them good, they forced the nation to fight over again the battle which had already been decided in the time of the Lancastrians. The contest between personal monarchy and constitutional government was terminated only by the removal of the Stuarts from the throne. A battle-field was found in nearly every department of government. James I. himself ran counter to many of the national prejudices. Thoroughly Protestant at heart, he favored the new High Church party, who looked for support to a powerful crown; easily influenced by favorites, he fell in with the fashion of the [illegible] abroad, and ruled through the hands of a favorite minister in disregard of the wishes of the nation; he cultivated a friendship for Spain which was now regarded as the enemy of the [illegible] [illegible] were [illegible] by [illegible], [illegible] he succeeded in avoiding any open breach with his people. His son Charles I. was less fortunate. From the beginning of his reign he found his parliament arrayed against him; it succeeded even in wringing from him the great Petition of Right. Weary of the struggle in which he seemed to be worsted, he believed himself strong enough to stand alone, and for some years ruled without a parliament and in disregard of the most important liberties of his subjects. Financial difficulties, caused in part by his ill advised efforts to establish the Episcopalian form of worship in his northern kingdom, compelled him at length to seek parliamentary aid. The long-repressed discontent of the nation thus found a means of expression, and the edifice of personal government fell before it. A grudging consent to hotly pressed reforms, an unfortunate laxity in observing his promises, and unwise efforts at resuming his power drove Charles into open hostility with the people, and the country was plunged into the horrors of civil war. Revolution ran its inevitable course; the constitutional leaders of the early movement gave place to men who dreamed of much more radical changes and whose politics were deeply tinged with religious fervor. The war brought to the surface successful generals, and in one of them was found a man who united vast practical ability with the subversive views and religious enthusiasm of the advanced party.

The parliamentary enemies of Charles, having completed their work by the execution of the king, found themselves mastered by the overwhelming ability of Oliver Cromwell. Raised to what was practically the throne, he set himself to reconstitute upon a new basis the constitutional structure which had been swept away. His large and tolerant views, and his determination to produce order, excited the hostility of the narrow sectarians who had formed the majority of the Long Parliament. By all men of conservative mind, or who shared in the loyal sentiment so prevalent among Englishmen, he was regarded with aversion. His efforts to bring well ordered liberty out of the jarring elements with which he was surrounded failed; he was forced throughout his tenure of power to rely upon his own iron will. He succeeded in raising E to a high place among nations; it again assumed the position of leader of the Protestant interest and again sought its allies among the enemies of Spain. But on the death of the great Protector, and at the prospect of a succession of military tyrannies, a wave of reaction swept over the country. Enthusiasm had died out, and that majority which at all times loves the old ways and prefers the easy paths of habit to the strenuous efforts necessary to complete reforms insisted on the restoration of the banished house. With general acclamation, though not without some attempts to restrain his power within legitimate limits, Charles II. was brought back to Whitehall. Less arbitrary than his father, and far more capable of bending to the storm, he proved no less determined to maintain in his own way the fulness of the power he had inherited. He had to contend with much more formidable opponents. Though the full restoration of the church and crown had followed upon his accession, the Rebellion had not been without permanent results. It was impossible that the parliament which had for years been regarded as the source of government should sink back into the position it had occupied in the reign of Charles I.; the king could no longer hope to rule without it or to raise the revenue from illegitimate sources. The reign was one long dispute. The character of Charles, licentious, extravagant, and ready to waste the national resources upon his own pleasures, afforded ample ground of complaint. Surrounded by advisers as unscrupulous as himself, he sold himself to the French king to supply his financial wants. At the instigation of his paymaster, he plunged the country into a disastrous war with its Protestant neighbor Holland, and by his mismanagement allowed the enemy's fleet to ride undisturbed at the very threshold of the capital. He tampered with the national credit, and attempted by an exercise of high prerogative to set aside the laws against the Catholics. The enthusiastic parliament elected upon his return became before the close of its long life his bitter opponent.

The assaults of the opposition, Whigs as they were now called, were directed against the duke of York, the king's Roman Catholic brother. Nothing would satisfy them but his absolute exclusion from the [illegible] [illegible] they were [illegible] the [illegible] son the [illegible] duke of M[illegible] upon the [illegible] but [illegible] defeated itself. Charles, never deficient in political insight, understood the national love for the rights of legitimacy, the dread of a disputed succession, and the sympathy with which his efforts to support his brother were regarded. He dissolved his refractory parliament, and even thought of vengeance. He drove Shaftesbury, the leader of the opposition, from the country, and assaulted the strongholds of his enemies by finding excuses to confiscate the charters of London and other great cities. The Whigs, who saw that such a step by changing the constituencies might easily change the character of future parliaments, were driven to despair. The more statesmanlike among them began to think of seeking for the assistance of the king's nephew, the prince of Orange. Some of the wilder spirits sought for a speedier remedy in assassination. The discovery and punishment of the Rye-house Plot, and the skilful mingling of the aspirations of patriots with the atrocious schemes of vulgar murderers, for a while discredited the Whigs, and Charles died to all appearance triumphant. It remained for his brother to bring into action the deep-seated discontent which underlay the seeming success of the crown. With a want of judgment little short of judicial blindness, he proceeded in a few years to alienate every class in E. The open insurrections of Monmouth and Argyll were punished with reckless and bloody severity. The Test Acts were set at defiance, and Catholics filled the army. He maintained the shameful attitude his brother had adopted toward France. He laid his hand upon the freehold offices of the universities and the church, asserted the power of the crown to dispense with statutes, re-established the court of High Commission, called upon the clergy to read publicly his illegal declaration of religious indulgence, and established a standing army to overawe the capital. Such a series of tyrannical actions brought about the crisis. The Whig leaders betook themselves to William of Orange. This great statesman, who had devoted his life to restrain within due limits the power of Louis XIV., at once accepted with joy the opportunity of adding the strength of E. to his great combinations. Protestant in religion, tolerant both by nature and by political necessity, the powerful chief of a republican government, he was well fitted to rule a kingdom torn by religious and political faction. The heads of all the English parties had sought his aid; his mere appearance was sufficient to close the Stuart dynasty and drive James a fugitive from the country.

The nation had again entered upon the full exercise of its powers. Taught by experience, before it deposited them in the hands of the king, it formulated the liberties of the country in a great and binding charter which should at once and forever put an end to those efforts at personal rule which had rendered its previous history so stormy. The victory of parliament was thus completed. The reign of the first parliamentary king was indeed disturbed throughout by conspiracies, and rendered unrestful by the efforts of the exiled house; and at the close of the reign of Queen Anne for one critical moment there was a possibility that the Tories under Bolingbroke would succeed in re-establishing the Stuarts; but the rapid action of the great Whig leaders thwarted the attempt, and the failure of the Jacobite insurrection in 1715 secured in accordance with the settlement of parliament the Hanoverian house upon the throne. From that time onward, through the reigns of the four Georges, of William IV., and of Victoria, what we now regard as constitutional government has constantly prevailed. The contests of parties however severe have been over differences of opinion of a less vital character than those involved in a change of dynasty. It has been possible without revolution, without impeachment, to allow of the quiet and orderly change of ministers as a regular part of the working of the parliamentary machine. Such a process implies little short of the complete disappearance of the personal wishes or opinions of the monarch as a factor in the political life of the nation. It was not without resistance that the crown consented to assume this attitude. Neither William III. nor the statesmen who had secured his accession understood the full results of what had been done. Nor was William himself, bent upon using the wealth of his new dominions to aid him in his great continental schemes, inclined to resign any of the powers of the crown, or to throw himself into the arms of a single party. He attempted like his predecessors to employ as his ministers the ablest men of all parties. It was almost by accident that what is known as party government, by which the king chooses his ministers from the majority in the House of Commons, and thus puts himself in harmony with his parliament, was discovered. The lesson which the success attending the great Whig government of 1696 taught was strengthened by experience. It was not till the duke of Marlborough, the heir of the views and objects of William, found himself supported by the homogeneous ministry of 1708, that he met with unqualified success. From that time the ministry, virtually a committee of the majority of the house, and known as the Cabinet, has formed a recognized part of the machinery of government.

But it was not only in the establishment of constitutional government that the Revolution of 1688 produced a change in the attitude of E. It introduced the country as a first rate power into the politics of Europe; no important complications have since arisen in which it has not played its part. Throughout William's reign, as a matter of course, its strength was employed against France. The war of the Spanish Succession opened to its armies under the leading of Marlborough a glorious career of victory. The Whig leaders, who had not shrunk from impeaching the authors of the Peace of Utrecht, which closed it, yet appropriated the advantages then acquired, and forced E. in support of the treaty to the very head of the European powers. In the war of the Austrian Succession, the national energies, directed chiefly against France, secured British supremacy upon the ocean, which ripened under the great Pitt in his alliance with Frederick of Prussia into the unquestioned command of the colonial world both in the east and west. Though paralyzed for a moment by the disasters of the American rebellion, the military enterprise of the country revived under the younger Pitt. Forced into opposition to the French Revolution, he was the soul of the great coalitions by which the proselytizing vehemence of the Jacobins was held in check. The appearance of Napoleon upon the scene, and the extraordinary successes which attended his arms, changed the character of the war; it became a struggle for existence. It was again English subsidies, English troops, and English successes in Spain which tended more than anything else to bring the great powers into action, and to rouse that feeling of national life which produced the overthrow of the Napoleonic empire. Once again E. stood at the very head of European powers.

One cause of these vast successes, unexpected in a country under popular rule, is to be found in the character of the government which sprung from the Revolution. That event was in its essence an aristocratic rather than a popular movement. The restriction of the constituencies and the influence of the possession of land threw power into the hands of a comparatively limited class. It was more as an oligarchy than as a democracy that E. was able to prove itself so powerful abroad. But great social changes were gradually working themselves out, a revolution was taking place in the industrial world. The enlarged application of steam, the invention of machinery, improved methods of agriculture, the extended use of coal, the removal of the iron trade from the south to the north, and its great increase, were all tending to bring into greater prominence the trading manufacturing and artisan classes. The strange anomalies of the representation became still more glaring; change of occupation was not effected without much individual hardship, and the discontent arising from suffering was joined with that engendered by a sense of political exclusion. The ideas fostered by the French Revolution played their part in the general ferment. The determined and successful effort of the Irish Catholics to obtain religious emancipation laid bare the increasing weakness of the governing classes. And at length, the leaders of the Whig party made common cause with the classes hitherto excluded from government, and backed at once by the traders and the artisans, forced upon an unwilling parliament the great Reform Bill of 1832. From this time there has been a marked change both in the position of E. and in the character of the questions which have excited public interest. Still mistress of the sea, and possessed through its colonies of an empire distributed in every corner of the globe, E. has found enough to do in the preservation and improvement of this gigantic dominion, and has as far as possible abstained from interference in continental quarrels. Once and again it has shown its impotence. In 1848, the year of revolutions, and in the subsequent consolidation of Italy, its sympathies were not hidden, but there was no thought of active interference. It allowed the great American republic to settle its disputes uninterrupted. It adopted the same attitude of non-intervention in the Prussian wars against Denmark, against Austria, and against France. It has only been in questions which seemed to touch the safety of its Eastern empire that it has drawn the sword. The Crimean war was avowedly for the maintenance of Turkey as a check upon Russia, which was threatening the road to India. Of the same class have been the wars in Egypt and Afghanistan. Still more directly when India itself burst into insurrection was E. called upon to interfere and engage in the victorious but terrible campaigns which marked the suppression of the mutiny. The other wars, and they are not few, have all been connected with mercantile and colonial interests. The questions which have chiefly moved men's minds have been of a social or mercantile character. The extension of the electoral franchise, the reform of municipalities, the repeal of the corn laws, the establishment of free trade, the improvement of the condition of the working classes, the regulation of strikes and trades-unions, a national system of education, and of late years the question of the management of Ireland (q. v.), have been the points round which political interest has centred. They are the fitting questions to occupy a democracy. To that phase of political life in one way or other E. is fast hastening. It has still to be seen whether under such conditions means will be found to keep together those colonies which are already to all intents and purposes independent, and to preserve to the empire the magnificent position which the gradual development of physical and political forces has secured.

SOVEREIGNS OF ENGLAND.

	Began to reign.
ANGLO-SAXON LINE—	
Egbert	800
Ethelwulf	836
Ethelbald	857
Ethelbert	860
Ethelred	866
Alfred	871
Edward the Elder	901
Athelstan	925
Edmund	940
Edred	946
Edwy	955
Edgar	957
Edward the Martyr	975
Ethelred the Unready	978
Edmund Ironside	1016
DANISH LINE—	
Canute	1017
Harold I	1035
Hardicanute	1039
SAXON LINE—	
Edward the Confessor	1041
Harold II	1096
NORMAN LINE—	
William I	1066
William II	1087
Henry I	1100
HOUSE OF BLOIS—	
Stephen	1135
PLANTAGENET LINE—	
Henry II	1154
Richard I	1189
John	1199
Henry III	1216
Edward I	1272
Edward II	1307
Edward III	1327
Richard II	1377
HOUSE OF LANCASTER—	
Henry IV	1399
Henry V	1413
Henry VI	1422
HOUSE OF YORK—	
Edward IV	1461
Edward V	1483
Richard III	1483
HOUSE OF TUDOR—	
Henry VII	1485
Henry VIII	1509
Edward VI	1547
Mary	1553
Elizabeth	1558
STUART LINE—	
James I	1603
Charles I	1625
COMMONWEALTH	1649
STUART LINE—	
Charles II	1660
James II	1685
HOUSE OF ORANGE—	
William and Mary	1688
STUART LINE—	
Anne	1702
BRUNSWICK LINE—	
George I	1714
George II	1727
George III	1760
George IV	1820
William IV	1830
Victoria	1837

This sketch excludes from its view the history both of Scotland and of Ireland: separate articles will be found under these headings. For a more detailed account of the events of each reign, and of the character and deeds of each important person, the reader is referred to special articles, at the end of which a list of authorities will be given. See the Introduction to the Study of English History (1881), by S. R. Gardiner and J. B. Mullinger, the second part containing a list of authorities. For special periods the following books will be found useful:

Before the Conquest.—Guest's Origines Celticæ (1883); Pearson's Early and Middle Ages, vol. i. (1867); Kemble's Saxons in England (1849; new ed., 1876); Sharon Turner's History of the Anglo-Saxons from the Earliest Period to the Conquest (1852); Lappenberg's History of England Under the Anglo-Saxon Kings (1845; new ed., 1880); Green's Making of England, 449-829 (1881); Green's Conquest of England, 758-1071 (1883); Stubbs' Constitutional History, vol. i. (1874); Hook's Lives of the Archbishops of Canterbury, vol. i. (1860); Elton's Origins of English History (1882).

1066-1485. Stubbs' Constitutional History, vols. ii., iii. (1875-78); Lingard's History of England, vols. i.-v. (1819); Freeman's Norman Conquest (1867-70, new ed., 1877-79); Freeman's William Rufus (1882); Bright's Medieval Monarchy (1875); Sharon Turner's Early and Middle Ages to 1307 (1853); Gardner's Richard III. (1878); Hook's Lives of the Archbishops (1860).

1485-1688.—Froude's History of England, 1529-88 (1856-69, new ed., 1881-82); Lingard's History of England, vols. vi.-xiv. (1819-31, new ed., 1883); Mackintosh's History of England (1834, new ed., 1846); Bright's Personal Monarchy (1876); Ranke's History of England in the 17th Century (1875-6); Gardiner's History of England, 1603-42 (1869-82 new ed., 1883-84), and History of the Great Civil War (1886 *et seq.*); Carlyle's Letters and Speeches of Cromwell (1845, new ed., 1872); Macaulay's History of England, 1660-1702 (1849-55); Hallam's Constitutional History, 1485-1760 (1827).

1688-1837. Lecky's History of England in the 18th Century (1878-87); Stanhope's Queen Anne (1870, new ed., 1880), and History of England, 1713-83 (1836-54); Massey's History of England, 1745-1802 (1855-63, new ed., 1865-66); Martineau's History of the Peace, 1800-48 (1849-50, new ed., 1877-78); Bright's Constitutional Monarchy (1877); Erskine May's Constitutional History, 1760-1860 (1861-63; new ed., 1871); Walpole's History of England from 1815, vols. i.-iii. (1878-80).

1837-80.—Justin M'Carthy's History of Our Own Times (1879-80; new ed., 1882); Walpole's History, vols. iv., v. (1886); Bright's Growth of Democracy (1888); Molesworth's History of England, 1830-74 (1866-73; new ed., 1874).

Summary of Recent English History.—The close of the eighteenth century found E. exhausted indeed by the long war but united in a stubborn spirit of determination to resist any foreign attack.

The frightful disturbances in Ireland were ended by the Union, the Irish parliament having been bribed to commit suicide. The war in Europe went on, and seemed to result in a series of monotonous successes for the arms of Bonaparte.

The complete destruction of the combined French and Spanish fleets by Nelson at Trafalgar, which ruined the French naval power for the rest of the war, was more than offset by the capitulation of Ulm and the victory of Austerlitz. Napoleon, master in 1806 of a large part of Europe, determined to ruin E.'s commerce, and by the Berlin decrees declared the British Islands in a state of blockade. E. retaliated by the orders in council, which led directly to the costly and futile war with the United States of America.

The Peninsular war culminated in the victory of Salamanca, and the disastrous retreat of Napoleon's armies from Moscow roused Europe once more against him. His exile to Elba (1814) and his return to France the next year, the crushing rout of Waterloo, and the final banishment to St. Helena, closed ignominiously the most brilliant military career in the history of the modern world.

After this we can trace a growing disinclination on the part of E. to take part in European quarrels and a determination to attend principally to her own domestic affairs. Henceforth her wars shall be purely dictated by the necessities and complications of her commerce, and her whole foreign policy shall be dominated by her home interests. In E. there was very considerable distress arising from the disturbed commercial conditions bequeathed by the protracted wars, while hatred of the French Revolution led to repressive legislation at home. The anomalies of the system of parliamentary representation led to demands on the part of great unrepresented towns like Birmingham and Manchester. Meetings were held which were attacked by the military; [illegible] and a deep feeling of indigna tion was stirred up in the breasts of Englishmen. The failure of the Bill of Pains and Penalties was the death knell of the old regime. Henceforth legislation was to be steadily directed to the redress of the grievances of the mass of the people.

Peel abolished the death penalty for small offences; the Test and Corporation Acts were repealed, and Roman Catholics were admitted to the Imperial Parliament (1828).

In 1832 the first great Parliamentary Reform bill of the century was passed, which handed over the balance of power to the middle or shop-keeping classes.

Immediate results of the reform were the abolition of slavery in the colonies (1833), and the New Poor Law of 1834.

Queen Victoria succeeded to the crown in 1837, and within ten years there began the agitation which resulted in the repeal of the corn laws and the establishment of free trade.

The Crimean war (1854-56) and the Indian mutiny (1857), were followed by the resumption of reform legislation. In 1867 the reform bill carried by Mr. Disraeli did for the working men, the artisan classes, what the bill of 1832 had done for the tradesmen.

The new parliament disestablished the Irish church, and adopted the ballot, extended the system of government primary education, and reformed the method of admission to the army and civil service. We have said that E.'s foreign policy has been dominated by her commercial interests. We can illustrate this perfectly by the case of India. After the mutiny of 1857 India came directly under the rule of the British crown, and finally, on the advice of Disraeli, the Queen of E. assumed the additional title of Empress of India.

The jealousy of Russian conquests in central Asia led to E.'s assuming a practical protectorate over Afghanistan, and to the building of strategic railroads through the great passes on to the debatable table-lands.

The purchase of the shares of the Khedive of Egypt in the Suez Canal was really dictated by the determination to control the road to India. The military occupation of Egypt though primarily due to a desire to safeguard the interests of the bondholders, had in the background the importance of E.'s control there in case of a struggle for her Indian empire.

The curious vacillating policy of the Liberal Government of E. with regard to the Soudan, a policy stained by the blood of Gordon, and by the sacrifice of many noble lives, was explicable by the dubiety of the trade advantages of equatorial Africa.

On the whole the student of history will acknowledge the truth of what we have said as to the real force which controls the foreign policy of England.

We necessarily pass over the great civil war in the United States, and the heart burnings to which E.'s neutrality gave rise. The Geneva award of $15,000,000 was a grand illustration and object lesson to the world of the application of the humane principle of arbitration to a dispute between two of the greatest nations on earth.

The partition of Africa and the voluntary restoration of Heligoland to Germany complete the foreign incidents of recent years.

The gradual opening up of the Dark Continent to civilization, the slow but sure extirpation of the slave trade—that running sore of the world—the building of railroads and the launching of steamboats on Africa's great lakes and rivers—these things are full of hope for humanity.

A large part of the time of the imperial parliament has for many years been taken up with the discussion of Irish questions, especially of that of Home Rule. Mr Gladstone and the English Liberal Radical party have committed themselves to the principle of Home Rule; while some of the Liberals seceded on the question, and under the name of Liberal Unionists made an alliance with the Tories.

The Irish members, over eighty strong, were led with consummate ability by Mr Parnell almost to the threshold of success, when the 'uncrowned king' permitted a woman's selfish passion to cloud his honor and he died, doubtless, of a broken heart.

The controversy over his leadership has not ceased with his death and it is difficult to avoid the conviction that the question of Home Rule for Ireland has been practically postponed.

At the beginning of 1892 the heir presumptive to the British crown, Prince Albert Victor, duke of Clarence and Avondale, was suddenly removed by influenza, under what his grandmother the queen characterized as 'peculiarly moving and touching circumtances.' The young prince had just been betrothed, and was about to be married to Princess May of Teck. His brother George, just recovering from a severe attack of typhoid fever, succeeded as heir presumptive, and next in the line of succession is his eldest sister, the duchess of Fife.

The present prime minister of E. and secretary for foreign affairs, is the marquis of Salisbury K. C. B., whose cabinet comprises the following distinguished names:

Lord High Chancellor	Lord Halsbury
Lord President of the Council	Viscount Cranbrook
Chancellor of the Exchequer	George J. Goschen
Home Secretary	Henry Matthews
Secretary for War	Edward Stanhope
Colonial Secretary	Lord Knutsford
Secretary for India	Lord Cross
First Lord of the Admiralty	Lord Hamilton
Lord Chancellor for Ireland	Lord Ashbourne
Chief Secretary for Ireland	William L. Jackson
First Lord of the Treasury	Arthur J. Balfour
Leader of the Commons	Arthur J. Balfour
Chancellor of Duchy of Lancaster	Duke of Rutland
President of the Board of Trade	Sir Michael Hicks Beach
Lord Privy Seal	Lord Cadogan
President Local Gov. Board	Charles T. Ritchie
President Board of Agriculture	Henry Chaplin

The present condition of political parties in England, and the outlook for the near future, are of singular interest. Lord Salisbury has the abstract constitutional right to prolong the life of the present parliament to its extreme legal limit. But the wisdom of such a course would be open to question. The bye elections have shown a steady trend of feeling on the part of the English voters toward the Radical party. Indeed the recent defeat of the Unionist candidate in Lancashire, and the wresting of the marquis of Hartington's (now duke of Devonshire) seat from his party, has been unmistakable as the handwriting on the wall. In all probability, therefore, the general election will not be postponed beyond this summer (1892), the government will dissolve parliament on the ground of the factious opposition to their Irish measures. The question of Home Rule will then come squarely before the country and its settlement will be largely influenced by two factors, the temper of the Irish people, and the health of Mr. Gladstone. Otherwise, to postpone the inevitable appeal to the nation to the last day allowed by law would be a real confession of conscious weakness, and to invite an overwhelming defeat.

ETHIOPIA, *ē-thĭ-ō'pĭ-a:* the biblical Kush. Originally, all the nations inhabiting the southern part of the globe, as known to the ancients, or rather all men of dark-brown or black color, were called Ethiopians (assumed by the Greeks to be from the two Greek words *aithō ōps*, and to mean 'sunburned'; but it may be possibly a form of an unknown Egyptian word). Later, this name was given more particularly to the inhabitants of the countries south of Libya and Egypt, on the Upper Nile, extending from 10° to 25° n. lat., 28° to 50° e. long.: the present Nubia, Sennaar, Kordofan, Abyssinia. The accounts which the ancients have left us with respect to this people are, even where they are not of an entirely fabulous nature, extremely scanty and untrustworthy, as both Greeks and Romans never got beyond Napata, 19° n. lat. From the Homeric age down to Ptolemy, these regions were understood to be peopled by pygmies, troglodytes ('dwellers in caverns'), blemmyes ('hideous men'), macrobii ('long-lived men'), etc., besides being divided into the lands of cinnamon, myrrh, of elephant-eaters, fish-eaters, tortoise-eaters, serpent-eaters, etc. Homer frequently refers to the 'blameless Ethiopians.' The only portion of ancient records which does contain something akin to historical accounts is that which refers to Meroë, an island formed by the rivers Astaphus and Astaboras, tributaries of the Nile. There stood, from time immemorial, an oracle of Jupiter Ammon. This and the central portion of the island, together with the extraordinary fertility of its soil, the abundance of animals, metals, etc., made it not only the chief place of resort for all the inhabitants of the adjacent parts, especially the numerous nomad tribes, but also the emporium for India, Arabia, E., Egypt, Libya, and Carthage. Thus it grew so rapidly that about 1000 B.C. it counted among the most powerful states of the ancient world; and about 760, having ever since Sesostris been tributary to Egypt, it succeeded, under Sabacus, in shaking off the Egyptian yoke, and continued, in its turn, to hold Egypt for about sixty years. During the reign of Psammetichus 240,000 Egyptians settled in Meroë, which, the greater part of the immigrants being artisans, traders, etc., rose still higher. Many new cities were built, and the state was in the most flourishing condition when it was conquered by Cambyses, about 520 B.C. He fortified the capital town and called it Meroë. After the destruction of Thebes by Cambyses, most of the inhabitants of that city took refuge there, and made the country still more Egyptian. Ergamenes transformed its theocracy into a military monarchy in the 3d century. Under Augustus, Meroë was conquered, and a Queen Candace is mentioned as his vassal. Under Nero nothing but ruins marked the place of this once powerful and highly civilized state. Up to this day remnants of mighty buildings covered with sculptures (representations of priestly ceremonies, battles, etc.) and half defaced inscriptions hewn in rocks, besides rows of broken sphinxes and colossi, are frequently met with in those parts.

According to the scanty native chronicles, the son of Solomon and the Queen of Sheba (Makeda as they, Balkis as the Arabian historians call her), named Menilehek, was the first king of the Ethiopians. Few kings' names occur up to the time of Christ, when Bazen occupied the throne. The missionary Frumentius (330) found two brothers (Christians) reigning, Abreha and Azbeha. During the time of the Greek emperor Justin (522), King Elezbaas destroyed the state of the Homerites in Asia, in order to revenge their persecutions of Christians, and was canonized. From 960 to 1300 another dynasty, the Zagean, held the chief power, all the members of the Solomonic dynasty, save one, having been murdered by Esat, who made her son king. In 1300 Ikon Amlak, a descendant of this one scion of the house of David, regained possession of the throne. The history of the country, down to the reign of the Negus John (killed near Galabat, 1889, May, in battle with the dervishes), is given under ABYSSINIA.

Emigrants from the other side of the Arabian isthmus, as were, beyond doubt, the earliest settlers in E., it is but natural that the structure of their language, as well as that of their own bodies, should bear traces of their Semitic origin. The fact of this emigration is expressed in the very name of this language, which is called Geez, possibly 'free,' affording a parallel to the designation Franks (freemen), though more probably the word means 'migration,' hence 'emigrants.' The name E., or as they call it, Ithyopya (adj. Ityopyawi), they adopted from the Greeks at a very late period.

This their oldest language, Lesāna Ge'ĕz, was suppressed by a royal decree of Ikon-Amlak, in the 14th century, and the Amharic adopted as the court language. Ever since, it has, with exception of the province of Tigré, where it is still spoken (with slight idiomatic changes), remained the Lesāna Mazhaf, the language of books and of the church. It is exclusively used in writing, even of ordinary letters, and the educated alone understand it. Its general structure comes as close to that of the Arabic as a sister-dialect can and must. A great many of its words are still classical Arabic; others resemble more the Hebrew and the Aramaic, others again belong to African dialects; and many, as the names of the months, are Greek. It has twenty six letters, twenty two of which bear the ancient Semitic stamp, and exhibit the greatest likeness to the Phœnician (the common original alphabet), though no doubt derived immediately from the Sabean or south Arabic alphabet (see ALPHABET). There are seven vowels, including a very short *e*, which sounds precisely like the Hebrew Sheva when open, and like *e* in 'men' when shut. These vowels are represented by little hooks, and remain inseparably attached to their respective letters; and as the Ge'ez, unlike all its sister languages, is never written without vowels, the alphabet becomes a syllabary with 182 characters. In addition to this, four consonants (*g*, *k*, and *h* sounds) interject a *u* sound before the principal vowel, *qua*, *qui*, *qué*, etc. Another difference exists in its being written from left to right, a circumstance from which some have concluded that the Greeks introduced writing in E.; forgetting, in the first place, that Greek itself was frequently written from right to left, and that Zend, certain cuneiforms, hieroglyphs, etc., are likewise written from left to right. As was to be expected among emigrants from south Arabia, the verbal system has most resemblances to the Arabic, although it differs from this and agrees with Aramaic in discarding the passive and using for it the reflexive; there is a double infinitive, only a passive participle and participial words formed by *m* prefixed; traces of a dual remain, though it is no more in use; the formation of the so-called broken plural, and of declension generally, a special accusative termination, the distinction of the subjunctive from the imperfect, and other peculiarities distinguished the Ge'ez from the northern Semitic; while the want of the article distinguishes it from Arabic; and in power to subordinate clauses by means of particles and form a concatenated sentence it is superior to all other Semitic dialects. There are no diacritical marks employed in writing; the letters are not combined, and the words are separated by two dots.

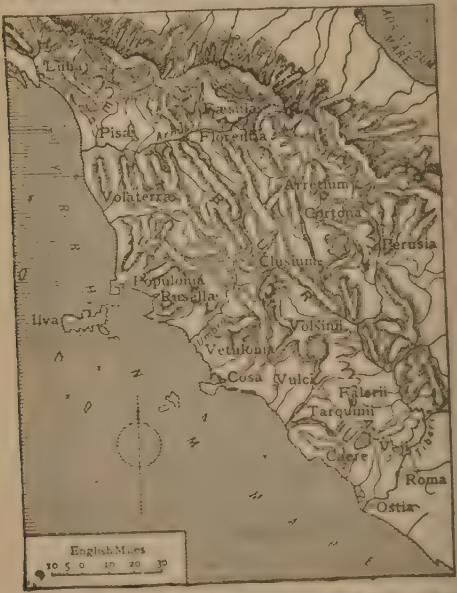
እስመ ፡ ከመዝ ፡ አፍቀሮ ፡ እግዚአ
ብሔር ፡ ለዓለም ፡ እስከ ፡ ወልዶ ፡
ቀሕደ ፡ ወሀበ ፡ ቤዛ ፡ ከመ ፡ ኵሉ ፡
ዘየአምን ፡ ቦቱ ፡ ኢይትሐጐል ፡ አላ ፡
ይረክብ ፡ ሕይወተ ፡ ዘለዓለም ።

The text John, iii., 16 in Ethiopic, as printed by the British and Foreign Bible Society.

Although there may have been some literature in a flourishing country like E. anterior to Christ, still, owing both to frequent internal convulsions and other causes, no traces of it remain, even the few inscriptions that have been found being of the Christian age. The earliest existing document of post-Christian literature is a complete translation of the Bible, according to tradition by Frumentius, most probably by missionaries from the north whose native language was Aramean (see FRUMENTIUS). The Old Testament, a translation from the Alexandrine version of LXX, consists of four parts: (1) the Law or Octateuch (five books of Moses, Joshua, Judges, Ruth); (2) Kings; (3) Solomon; (4) Prophets, and two books of the Maccabees. The New Testament consists of (1) Gospels; (2) Acts; (3) Paulus; (4) Apostolus. The Book of Enoch belongs also to the literature of the Old Testament (see ENOCH), besides the Book of Jubilees, the Ascension of Isaiah, and some others. The New Testament comprises the Shepherd of Hermas, and likewise another book, Synodos, containing the pseudo Clementine or Apostolical Constitutions, in two recensions, with the Apostolic Canons, the canons of various councils, and much other matter. The Ethiopians have a liturgy (Kanon Kedâsê—'Holy Canon'), and a symbolico-dogmatical work (Haimanôta Abau—'Belief of the Fathers'), containing portions of homilies of the Greek Fathers, Athanasius, Basil the Great, Chrysostom, Cyril, Gregory of Nyssa, and Gregory Nazianzen. Besides these they have martyrologies, called Seneksar (Synaxaria). They employ in this their sacred literature a peculiar kind of rhythm without a distinct metre. Any number of rhyming lines forms a stanza, without reference to the number of words constituting the verse, or of verses constituting the stanza. They also use certain phrases as a refrain. Ethiopic literature consists chiefly of translations, in earlier times from the Greek, and more recently from the Arabic. In the translations from Greek some interesting works have been preserved which had otherwise disappeared, *e.g.*, the Book of Enoch. Among the translations from the Arabic are books of philosophy, medicine, jurisprudence, and history. The native literature consists chiefly of sacred poetry and chronicles, among the last the Gloria Regum (Kebra Nagast), a work in praise of Axum and the royal family of E. (Chronicle of Axum). They are very fond, however, of riddles, wise saws, and the like, so fascinating to the Eastern mind. No wonder the learned in Europe should have been sorely puzzled by such a language, and that they should, after long consideration, have pronounced it to be either 'Chaldee' or 'Indian,' while Bruce held it to be the language of Adam and Eve. Potken, a Cologne church dignitary, happening to be at Rome at the beginning of the 16th century, there made the acquaintance of native Ethiopians, and became the first to enlighten the world on the nature of this occult language. After him came Wemmers, who in 1638 published an Ethiopian grammar and dictionary. The principal investigator, however, was Job Ludolf from Gotha, who, aided by the Abba Gregorius, and supported by his own extraordinary linguistic talents and indomitable energy, acquired such a power over this language that, notwithstanding the number of eminent Orientalists who have since worked in this field, his books still hold their own place. It is hardly necessary to add that the Ethiopic is one of the most important and indispensable languages to the Semitic scholar.

The great advances made in Ethiopic studies in recent years have greatly superseded earlier works. (1) Texts: The Psalter, by Potken (Rome, 1513, 1518); by Ludolf (Frank., 1701, and often); The Gospels (Lond., 1826); New Testament (Lond., 1830), both by T. Pell Platt (already in Walton's Polyglott); Jonah in 4 Oriental versions, by W. Wright (Lond., 1857); Joel, by Dillmann (in Merx, Comm. on Joel, 1879); The Old Testament (vol. i., 1853; vol. ii., 1861–71), by Dillmann. Dillmann has also edited the following: The Book of Enoch (1851; previously by Lawrence, Oxford, 1838; recent Eng. trans. by G. H. Schodde); the Ascension of Isaiah (1877; previously by Lawrence, Oxford, 1819); the Book of Jubilees, or Little Genesis (1859); The Pastor of Hermas, by D'Abbadie (1860); the Ethiopian Didascalia, or Apost. Constitutions, by T. Pell Platt (1834). (2) Grammars and Dictionaries: Ludolf, Gramm. Æth. (Frank., 1702); Dillmann, Gramm. d. Aeth. Sprache (Leip., 1857). The ancient Geez is now represented by various dialects: (1) by the Tigre, which has best preserved the features of the original language, spoken in the n.e. of Abyssinia and particularly by populations just outside the n. border of the kingdom; vocabulary by Munzinger in Dillmann's Lexicon; (2) by the Tigriña, or, more properly, Tigrai, spoken about Axum, the ancient seat of the kingdom, which however has suffered more from the influence of Amharic; (3) by the Amharic, the state language since end of 13th century, and extending far to the s., which has drawn into itself a multitude of elements from the African languages, and developed many forms altogether alien to Semitic. Grammar and Dictionary by Isenberg (Lond., 1841); Praetorius, Gramm. d. Amh. Sprache, Halle 1879; Dictionnaire de la langue Amarinna, par D'Abbadie, Paris 1881. Since the English expedition to Abyssinia the British Museum possesses a larger number of Ethiopic MSS. than any other library.

ETRURIA, *ĕ-trô-rĭ-ă*, was the country inhabited or ruled by the Etruscans, a very ancient people of Italy. E. Propria, with which we are chiefly concerned, lay west of the Tiber and the Apennines, and included the valley of the Arno. In the 6th and 5th centuries B.C. the Etruscans held also the valley of the Po, called E. Circumpadana, and a region south of the Tiber, called E. Campaniana. E. Propria was a confederation of twelve cities or states, the *duodecim populi Etruriae*. No list of these cities has come down to us, but Veii, Tarquinii, Caere, Clusium, Cortona, Perusia, Vulci, Volsinii, Vetulonia, Volaterraea, and Arretium may probably be included, while the twelfth may have been either Rusellae, Falerii, or Populonia. To the northern confederation twelve cities are also assigned; among them we may reckon Mantua, Chiavenna, Flesina (Bologna), Ravenna, and Hatria, whose importance is shown by its having given a name to the Adriatic. In the southern province were Capua and Nola, and possibly Salerno. Some of these cities are now deserted sites, marked only by vast cemeteries and the remains of cyclopean walls, while others still retain more or less of their old importance.


ADRIATICUM MARE
Luna
Pisa
Arnus
Faesulae
Florentia
Arretium
Volaterrae
Cortona
Perusia
Clusium
Populonia
Rusellae
Ilva
Volsinii
Vetulonia
Cosa
Vulci
Falerii
Tarquinii
Caere
Veii
Tiber
Roma
Ostia
English Miles
10 5 0 10 20 30

Veii, for four centuries the formidable foe and rival of Rome, from which it is only eleven miles distant, is now utterly desolate. It was taken and destroyed by Camillus in 396 B.C. The necropolis, extending over 15 sq. m., attests the splendour of the ancient city and the vast population which must have dwelt within its walls, seven miles in circuit. Six miles from the sea, midway between Rome and Civita Vecchia, is the village of Cervetri, which preserves the name and marks the site of Caere, which, under its older name of Agylla, is said to have been a Pelasgian city before the arrival of the Etruscans. On this site inscriptions have been found, written in a language and an alphabet called 'Pelasgic,' and believed to be pre-Etruscan. The paintings in some of the tombs are in a style no less archaic. Of later date is the tomb of the Tarquins, who are said to have fled to Cære when expelled from Rome. Cortona, perched upon a rock, and surrounded by fragments of massive walls, possibly of pre-Etruscan date, occupies the most venerable site in Italy. In the time of Herodotus, Cortona, like Cære, retained its 'Pelasgic' character. Dionysius says it was a great and flourishing city of the Umbrians before it was taken by the Etruscans, who made it their northern capital. The bronze-workers of Cortona were renowned, and the local museum contains noteworthy examples of their skill. The southern capital was Tarquinii, a city purely Etruscan. Corneto, a town sixty miles from Rome, and not far from the sea, occupies a portion of the site. The necropolis of Tarquinii, which extends over many miles, contains several sepulchral chambers, painted in the archaic style of the genuine art of the Etruscans, and giving a curious insight into their religious beliefs. We have scenes from the under world, representing souls riding on horseback or seated in cars, led away in the charge of good or evil spirits. Elsewhere the daily life of the people is depicted; we see horsemen returning from the chase, chariots, boar hunts, wrestlers, pugilists, banqueting scenes, dancing girls, and musicians. Fig. 1 represents a dancing girl and musicians from the walls of a tomb called the Grotta del Triclinio, and fig. 2 a death scene from a tomb called the Camera del Morto. The tombs of Clusium (now Chiusi) exhibit the same archaic character as those of Tarquinii. A vast chambered tumulus called the Poggio Gajella is probably that described by Varro as the tomb of Lars Porsena. Vulci, though barely mentioned by historians, must have been a very wealthy and populous city. The necropolis has yielded a richer treasure of artistic objects than any other Etruscan site. The Cucumella, a huge chambered tumulus like that at Clusium, bears a curious resemblance to the great tomb of Alyattes, king of Lydia, the father of Crœsus, near Sardis. Volsinii gave its name to Lake Bolsena, on whose shores it stood. It was one of the most powerful Etruscan cities, and one of the last to yield to Rome. From Volsinii we

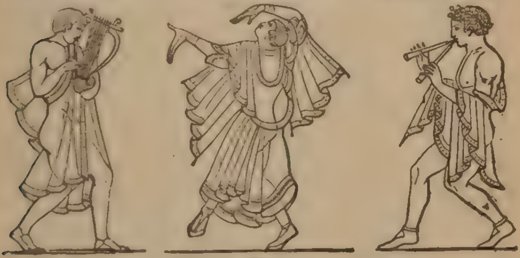


Fig. 1.

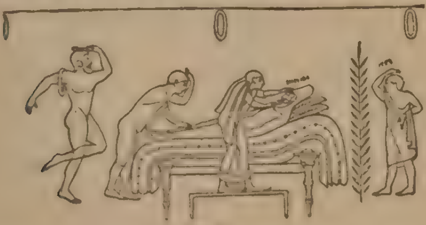


Fig. 2.

have few monuments or inscriptions, the necropolis not having yet been found. On the other hand, Perusia (now Perugia) has yielded 1,200 inscriptions, among them the famous cippus, a stone containing the only Etruscan inscription of considerable length. It has not been deciphered, but appears to be the record of the assignment of a sepulchre to the Velthina family. Velathri (now Volterra) called Volaterræ by the Romans, stands, like Cortona, upon an almost impregnable rock, surrounded by Etruscan walls, five miles in circuit. It held out against the Romans after all the rest of E. had been subdued. The people burned their dead instead of burying them, and the local museum contains 400 ash chests, like miniature sarcophagi, the sides carved with mythological subjects, or with representations of bull fights, boar hunts, horse-races, and gladiatorial combats. Cyclopean walls mark the sites of Rusellæ, Cosa, Saturnia, and of Pupluna (Populonia), a seaport, interesting chiefly for its coins. The walls of Faesulæ (Fiesole), near Florence, are well known to travellers. Orvieto (Urbs Vetus) must have been an important Etruscan site, but its ancient name is unknown. Vetulonia was probably near Magliano, a squalid village in the Maremma. Neither Luna nor Pisæ have yielded any remains of interest. Other Etruscan sites, among them Viterbo (Surrina), Bologna (Felsina), Toscanella (Tuscania), Siena (Senæ), Arezzo (Arretium), Sovana (Suana), and Ferento (Ferentium), are described by Dennis, Cities and Cemeteries of Etruria (2d ed., 1878), to which the reader may be referred for fuller information.

History. The history of E., like that of Carthage, has to be reconstructed from accounts transmitted by hereditary foes. The Roman legends represent E. as a powerful and wealthy state before Rome was founded. According to a tradition preserved by Varro, the Etruscan era commenced in 1044 B.C., nearly three centuries before that of Rome. When legend ceases and history begins we find the Etruscans a great naval power, allied with Carthage against the Greeks, and dominant throughout northern and central Italy, Rome itself being included in the Etruscan dominion, and ruled by Etruscan kings. The legend of the migration of the Tarquin dynasty from Tarquinii may signify the extension of the domination of that powerful city over the regions southward of the Tiber. A cemetery, believed to be Etruscan, has been discovered on the Esquiline, and the Cælian Hill in Rome bears the name of the Etruscan chieftain Cæles Vibenna. The paintings and inscriptions in a tomb at Vulci give an Etruscan version of the Tarquinian story. We see the hero 'Macstrna' (Mastarna), an Etruscan appellation applied to Servius Tullius, cutting the bonds of his friend and companion Caile Vibinas (Cæles Vibenna), while Cneve Tarchunies Rumach (Cn. Tarquinius Romanus) is being killed by an Etruscan. The names of Tarquin, Mastarna, and Cæles Vibenna, thus curiously preserved, prove that Livy's account of the Etruscan kings of Rome is not wholly legendary. But that it was not derived from contemporary sources is indicated by a recent discovery of considerable interest. We learn that in 508 B.C. Lars Porsena of Clusium, as Livy calls him, marched with a great army to the gates of Rome to replace Tarquin on the throne. Now, in a newly opened tomb at Vulci, a sarcophagus was found, on which is depicted in relief a high official with insignia resembling those of a Roman consul. He is riding in procession on a biga, preceded by two lictors with their fasces, and followed by two servants. The inscription informs us that the deceased magistrate, Tite Larth, was *p[illegible] thers*, 'five times Porsena.' It is manifest that Porsena was not, as Livy supposed, a proper name, but, like 'Pharaoh' in Egypt, the designation of an office, and that the Etruscan chief who took up Tarquin's cause was the elected 'Porsena' or chief magistrate of Clusium. In like manner, since the word *machs* meant first in Etruscan, it seems probable that Macstrna, the Etruscan appellation of Servius Tullius, was not a proper name, but a designation of the kingly office, equivalent, it would seem, to princeps. We are also told that Tarquin, with his two sons, Titus and Aruns, took refuge in Cære. Not only are Tite and Arnth usual names in Etruscan epitaphs, but at Cervetri, the site of Cære, there is an immense chambered tomb containing mortuary records of forty-six members of the Tarchna family, which must have been resident at Cære for many generations.

As an Etruscan city Rome plainly attained a greater height of prosperity than she regained for two centuries. This is indicated not only by the legends of the splendor of the Tarquinian kings, but by the evidence of such vast constructions as the Cloaca Maxima, the Capitoline temple, and the Servian wall. The state ceremonial of Rome appears also to have descended from the period of Etruscan rule. The insignia of consular authority, the toga prætexta with its purple border, the ivory curule chair, the twelve lictors with their fasces and axes, all of Etruscan origin, are not likely to have been copied from the usages of hereditary foes, but are more probably survivals from the period when Rome was one of the Etruscan cities. An Etruscan origin may also be assigned to the circus, the gladiatorial combats, the horse-races, the triumphal processions, the pipe players, the lituus, the colleges of augurs, as well as the arrangement of the house, the art of constructing aqueducts and sewers, the division of the *as* into twelve parts, the beginnings of military science, and some of the Roman weapons. More than all, the high position of the wife, so different from that which she occupied in Greece, was the same as that which she occupied in Etruria.

How feeble was the Roman republic in its infancy appears from the fact that for a century after the expulsion of her Etruscan lords Rome maintained with varying fortunes the struggle with the Etruscan town of Veii, distant eleven miles only from her gates. That Veii fully held her own is shown by the admission that in the year 476 B.C. she captured the Janiculum. At that time the Etruscans were still the greatest military power in Italy. At the height of their prosperity, in the 6th century B.C., they shared with the Phœnicians and the Greeks the maritime supremacy of the Mediterranean. In 538 B.C., in connection with the Carthaginians, they sent a powerful fleet to expel the Greek colonists from Corsica. They attacked the Greek colony of Cumæ in 525 B.C., and again in 474 B.C., when their naval power was shattered by Hiero I. of Syracuse, in a great battle fought off Cumæ, the first event in Etruscan history as to which we possess contemporary records. The victory was celebrated by an ode of Pindar, then resident at the court of Hiero; while from the inscription on a bronze helmet, found at Olympia in 1817, and now in the British Museum, we learn that it was an Etruscan trophy from Cumæ, dedicated by Hiero and the Syracusans to the Olympian Zeus. In 453 B.C. we find the Etruscans still in possession of Corsica, and in 414 they were able to send a contingent of three ships to aid the Athenians at the siege of Syracuse.

But from this time dates the rapid declension of their power. Toward the close of this century the Etruscan dominion in Campania was overthrown by the Samnites and the Greeks of Cumæ, Capua being taken by the Samnites in 423. Then the Gauls swarmed over the Alps, and, after overwhelming the Etruscan cities in the valley of the Po, crossed the Apennines, having destroyed the wealthy city of Melpum in 396 B.C., the year in which the long struggle between Rome and Veii was brought to an end by the capture of the latter by Camillus, after a ten years' siege. The Gauls continued their devastating progress through E., and in 390 plundered Rome after having vainly laid siege to Clusium. E. was fatally weakened by the loss of her two outlying provinces and the devastation of the central province by the Gauls. After a prolonged resistance, southern E. submitted to Rome in 351 B.C. In 311 war was renewed, the Romans crossed the natural boundary formed by the Ciminian forest, and after repeated defeats of the Etruscans, a decisive contest took place in 283 at the Vadimonian lake, when Tarquinii lost its independence; and three years later the Romans reached Volaterra, the northern stronghold of the Etruscans, when the struggle which had endured for five centuries, came finally to an end.

In the Second Punic War the chief Etruscan cities furnished supplies for the Roman fleet. It is plain that these cities retained wealth and power as semi-independent allies under the Roman suzerainty. They seem to have been gradually Romanized, and were finally admitted to the Roman franchise in 89 B.C. The great Etruscan families secured high positions in the Roman commonwealth. Pompey the Great seems to have been of Etruscan lineage; tombs of the Pompeii having been discovered at Corneto (Tarquinii), Clusium, Cortona, and Perugia. There was a Tarquinian gens at Rome in the time of Cicero, while Mæcenas, who bears an Etruscan name, was from the Etruscan city of Arretium (Arezzo). Families of undoubted Etruscan lineage still linger on in E. The necropolis at Volterra contains the tomb, with Etruscan epitaphs, of the Ceicna (Caecina) family, members of which distinguished themselves under the early emperors, and whose lineal representative, Nicolas Caecina, bishop and patrician, was buried in the cathedral of Volterra in 1765.

Origin. The people of E. were called Etrusci, or Tusci, by the Romans, Tyrrheni, or Tyrseni, by the Greeks, Tursci by the Umbrians, and Rasena by themselves. Their origin and ethnic affinities have been much discussed. An early tradition, reported by Herodotus, and repeated by twenty two ancient writers, brings them from Lydia; but Dionysius of Halicarnassus doubts any such migration, because it is not mentioned in the Lydian history of Xanthus, and because the Etruscans differed from the Lydians in language, laws, customs, and religion. Dionysius adds that the Etruscans were a very ancient people, unlike all others in speech and manners.

Modern writers who accept the Lydian tradition point out that Tarquinii, probably the mother-city of the Etruscans, is near the coast, and appeal to striking structural resemblances between tombs at Vulci, Clusium, and Tarquinii and certain tombs near Sardis. They argue that, if Phocæans settled in Corsica, Lydians may have found their way to Italy, and that, if the Etruscans had entered Italy by the Rhætian Alps, the oldest settlements would be found in the valley of the Po, and not between the Arno and the Tiber. But it must be acknowledged that the migration of so numerous a people by sea is a formidable difficulty. In modern times it has been maintained that their language was Semitic, Celtic, Armenian, Gothic, Basque, or Albanian. Professor Sayce thinks it is *sui generis*, belonging to a family of speech which has everywhere become extinct. The present writer believes that the affinities are Ugro Altaic, and of late years this opinion has gained ground. The failure of Corssen's attempt to explain the language as an Aryan dialect, akin to Umbrian, Oscan, and Latin, is a gain in the negative direction, and few scholars would now be found to maintain that it belongs either to the Aryan or Semitic families of speech. It seems rather to have been an agglutinative dialect, approximating, like the Finnic, to the inflectional stage.

Mommsen thinks the Lydian tradition arose from a confusion between the Torrhebi of Lydia and the Tyrrheni of Italy. Fresh light has been thrown on the question by the recent discovery in Lemnos of two inscriptions in a language which, if not Etruscan, resembles it in many points. Thucydides says that Lemnos was inhabited by Tyrrhenians, and Dr Pauli thinks these inscriptions prove that the Tyrrhenians (Etruscans) of Italy belonged to a non-Aryan Tyrrhenian race, which also occupied portions of the Ægean coasts.

Probably there were two elements in the population of E., one autochthonous, numerous, and servile, the other an intrusive conquering aristocracy. Cære and Cortona are said to have been 'Pelasgic' cities before they were occupied by the Etruscans. Certain inscriptions from Etrurian tombs, formerly classed as Etruscan, are now attributed to the more ancient 'Pelasgic' race. Conestabile distinguishes between the tombs of an aboriginal people who practiced cremation and those of the later invaders who buried their dead. Livy says that the speech of the country folk in E. differed from the language spoken in the towns, and we may well believe that a conquered race would be left to till the soil for the benefit of invaders dwelling in walled towns. The splendid tombs from which our knowledge of Etruscan speech, luxury, and art is derived cluster round the walls of a few great cities and are mostly the sepulchres of wealthy nobles. We occasionally meet with the urn of a freedman (*lautni*) or of a slave, but we know nothing of the tombs of the inhabitants of the villages, who may well have belonged to another race and have spoken a different language. Again the abrupt collapse of the Etruscan dominion in Campania and in the valley of the Po indicates that it was a dominion of conquest rather than of colonization, and the complete effacement of the language in E. proper argues that the Rasena were a ruling aristocracy, comparatively few in number, though high in culture.

The physical type of the Etruscans is decidedly not Aryan. Professor Calori affirms that Etruscan skulls differ markedly in shape from all other Italic skulls. The descriptions by ancient authors, *pinguis Etruscus*, *obesus Tyrrhenus*, are confirmed by the recum bent portrait effigies on the sarcophagi, which show they were a sturdy race, short and stout, with large heads, thick arms, high color, scanty beard, and hair black or occasionally chestnut. It has been remarked that they were not unlike the Kheta (Hittites) who invaded Syria from the north, and whose monuments are found in Asia Minor as far west as the neighborhood of Sardis. In any case we may agree with Dionysius that the language, customs and religion of the Etruscans differed from those of any nation with which he could have been acquainted, while their physical type, as represented on their monuments, is so unlike that of other Europeans as to incline us to agree with the dictum of Seneca: *Tuscos Asia sibi vindicat* 'Asia claims the Etruscans as her own.'

Language.—The Etruscans had an extensive literature. The subjects represented on the monuments prove their familiarity with the tale of Troy and the cycle of Greek heroic legend, and we learn that they possessed histories, poems, dramas, and works on augury and divination. But their books have perished, so that in addition to a few doubtful Etruscan words preserved by Hesychius, Varro, and other writers, our knowledge of the language is derived only from inscriptions, of which about 5,000 have been discovered. To the meaning of these we have unfortunately no clue, as the few bi-linguals consist mainly of proper names. They wrote from right to left, in an archaic form of the Italic alphabet, which was obtained from Eubœa about the 7th century B.C. The Etruscan alphabet differs from the Latin in retaining the letters *theta*, *phi*, *chi*, and *san*, and in rejecting *d*, *b*, *g*, and *o*.

Most of the inscriptions are very short, only five containing more than twenty words. The longest, that on the Perugian cippus, extends to forty-six lines. They have been found as far north as the Alps, near Nice, Turin, and the lakes of Como and Lugano. But they mostly come from five or six sites in central E., one-fourth of the whole number being from Chiusi, and one-third from Perugia. Some vast cemeteries, such as those of Veii and Bologna, have yielded few or none, possibly because they date from a time when the art of writing had not become general.

About 4,000 of the inscriptions are short mortuary records, stating usually the name and parentage of the deceased, his age, his condition in life, and the public offices he held being occasionally added. They occur on the walls or over the entrances of vaults, on steles or pillars erected in front of tombs, or on the labels and seals of sepulchral niches, but they are more usually painted on the urns, or cut in the stone of the sarcophagi, a recumbent figure of the deceased frequently reposing on the lid, while the sides are sculptured with mythological subjects or scenes from the life of the deceased.

Working with such materials, German and English scholars have recently made considerable progress in the decipherment of the language, so that most of the short mortuary inscriptions can now be read with tolerable certainty. The inscriptions contain some 200 Etruscan words in addition to the proper names. Of these names a few, such as Cae (Caius), Cneve (Cnaevius), Marce (Marcus), and Tite (Titus), are borrowed from neighboring or subject races. Of genuine Etruscan names the most usual for men are Arnth (Aruns), Aule (Aulus), Larth (Lars), Sethre, Vele, Velthur, and Vete, and for women, Arnthia, Aulia, Larthia, Sethria, Fastia, Ramtha, Thana, and Thancvil. Many Roman gentile names, such as Spurinna and Perpenna, were of Etruscan origin, while Pomponius, Petronius, Catatius, Cassius, Cæcina, Volumnius, and Atinius appear in Etruscan tombs as Pumpu, Petruni, Cahate, Cazni, Ceicna, Velimna, and Atina. A few Etruscan names have been explained. Thus Thancvil (Tanaquil) was the wife of Tarquinius Priscus. Thana must have been the Etruscan goddess of maternity (= Juno Lucina), as on a mirror she assists at the birth of Minerva, and *cvil* (or *cver*) denotes 'gift' or 'dedication,' the word Thuscvil being inscribed on objects dedicated to Tinia (Jupiter). Hence Thancvil would mean 'Thana's gift,' and may be compared with such Christian names as Theodore or Diodorus. Again, Spurie, an Etruscan name, seems to be equivalent to the Latin Publius. The words *spural* and *spurana*, inscribed on vessels, armor, and tombs, signify that they were 'civic' or 'public' property, and the phrase *[illegible] marunuch spurana*, in an epitaph, probably means *fuit curator publicus*.

Relationship is sometimes expressed by words, such as *puia*, 'wife,' *clan*, 'son,' *sec*, 'daughter,' but more commonly by suffixes.

Thus, Aulesa is the 'wife of Aule,' Theprisa the 'wife of the Thepri' (Tiberius), Larthial the 'son of Larthia,' Larthialisa the 'wife of Larthia's son.' Velthur is a 'descendant of Vele,' and Velthurithura a 'descendant of Velthur.' Gentile names are formed by the suffix *-na*, corresponding to the Latin *-ius*. Thus, Vipna is the equivalent of Vibius, Varna of Varius, Caizna of Cæsius. This suffix is a common formative. Thus *suthi*, '*sepulcrum*,' gives *suthina*, '*sepulcrales*.' The suffix *-l* or *-al* has a similar force, *e.g.*, *fuflunsl*, 'a Bacchic cup,' from *Fufluns*, 'Bacchus;' and *Truial*, 'a Trojan,' from *Truia*, 'Troy.' Other ethnic formatives are *-ach* and *-ate*, as *Rumach*, 'a Roman,' and *Manthvate*, 'a Mantuan.'

Six words inscribed on the faces of a pair of dice give the first six digits, and other numerals appear in records of age which occur in epitaphs. The words *mach, ci, zal, sa, thu, huth, semph, cezp, mur* are believed to be the digits, while *ci-alchl*, *cezp-alchl*, *semph-alchl*, *mur-alchl*, *zathrum*, and *ciem-zathrum* must be decades. Ordinals and multiplicatives are formed from the cardinals. Thus *ci*, 'two,' gives *ci-s*, 'second,' and *ci-zi*, 'twice.'

The detection of the numerals has made it possible to show that the plural ends in *r* or *l*. Thus, *clan*, 'son,' gives *clen-ar*, 'sons;' as *ci clenar*, 'two sons,' and *clenar zal*, 'three sons.' The phrases *huth naper*, *naper ci*, *naper xii.*, shows that *naper* is a plural, meaning '*loculi*' or 'tombs.' The plural in *l* also appears in *arce ril lxvii.*, '*habuit annos lxvii.*,' and in *mursl xx*. So *tular* signifies 'cippi,' and *suthinesl* 'sepulchral niches.'

The names of men and women already cited, and such forms as *lautni*, 'a freedman,' and *lautnitha*, 'a freed-woman,' show that Etruscan was a gender language. There seems to have been no distinction between nominative and accusative. The genitive ended in *-s*, the dative in *-si* or *-thi*; and, as in the Altaic languages, the plural suffix preceded that denoting the case. Thus, from *clan*, 'son,' we have gen. *clen-s*, dat. *clen-si*, nom. and acc. pl. *clen-ar*, dat. pl. *clen-ar-asi*; while *precth-n-asi* is the dat. pl. of *precus*. From *tir*, 'moon' or 'month,' we have *tir-r*, '*menses*,' and *tir-r-s*, '*mensium*;' from *usil*, '*sol*,' *usils*, '*solis*;' and from *suthi*, '*sepulcrum*,' *suthi-thi*, '*sepulcro*.' The suffixes *-c* and *-m* are enclitic conjunctions: thus, *vel sethre puiac* is the epitaph of 'Vele Sethre and wife,' and *arnth vipis seriuris puiac matunaei* that of 'Arnth (son of) Vipi Seriuri and (his) wife Matunei.' According to Dr. Pauli, *mi* means 'this,' or 'this is;' while *ethen*, *ein*, or *ein* means 'here.' The meaning of several substantives, in addition to those already cited, has also been determined with tolerable certainty.

Coming to the verbs, *amce* certainly means '*fuit*,' while *ma* appears to be '*est*.' The third pers. sing. of the perfect tense ended in *-ce*, and of the present in *-e*. We have *tur-e*, '*dat*,' *tur-ce*, '*dedit*;' *ar-ce*, '*habuit*;' *thana-ce*, '*extruxit*;' *sval-ce*, '*vixit*;' *lupu-ce*, '*decessit*.' Thus, *clenar zal arce* is '*filios tres habuit*,' and *ramtha matulnei sech marces matulnas puiam amce sethres ceisinies* may be translated 'Ramtha Matulnei was the daughter of Marce Matulna, and wife of Sethre Ceisinie.' These examples may serve to show that the once apparently hopeless task of translating the Etruscan inscriptions is at last in a fair way of being accomplished.

Religion.—The Etruscans were proverbially a religious people—*gens ante omnes dedita religionibus—genitrix et mater superstitionis Etruria*. Their tombs bear witness to a belief in a future life and a dread of the malignant power of their deities. Affairs of state were regulated by the decisions of colleges of haruspices and augurs, who interpreted according to established rules omens and portents obtained from the inspection of the entrails of victims, the flight of birds, and from lightning, of which twelve kinds were distinguished. Varro, Cicero, and Martianus Capella have described the methods of divination as laid down in the *libri disciplinæ Etruscæ*. The heavens were regarded as the *templum* of the gods, and were divided into sixteen regions, in each of which one or more of the gods presided or resided. By ascertaining the precise region in which an omen, such as a flash of lightning, occurred, the fulgurator determined the name of the god who sent the message and interpreted it in accordance with his functions. Those gods who possessed the power of sending lightning were called the Novensiles, or Fulgurators. In the museum at Volterra is an effigy of an augur holding in his hand the instrument by which these observations were made, and an actual specimen of the instrument has recently been discovered near Piacenza. It is a bronze model of the liver of a calf, which must have been used like a sextant. Beginning with the north, the rim is divided into sixteen compartments, in each of which the name of one of the gods is engraved. The heavens were observed through apertures which correspond to the blood-vessels which supply the liver. One side of the instrument is dedicated to the sun, the other to the moon, probably for observations by day or by night. The protuberance called the *lobus Spigelii* was the 'mount of the gods,' and the gall-bladder was dedicated to Neptune. The names of the deities inscribed on this curious instrument, coupled with the account of Martianus Capella, have supplied unexpected information as to the Etruscan pantheon, and this is supplemented by the names appended to the deities in the mythological subjects painted on the walls of the tombs, or engraved on the backs of the polished bronze mirrors used by Etruscan ladies, of which four hundred are known. In many cases the subjects are taken from the Greek mythology, and the names are merely those of Hellenic or Italic deities conformed to the phonetic laws of Etruscan spelling. Such are Ani (Janus), Uni (Juno), Maris (Mars), Apulu (Apollo), Nethuns (Neptune), Ercle (Hercules), Menrva (Minerva), Velch (Vulcan), Satre (Saturnus), Artumes (Artemis), Letun (Latona), Vetis (Vejovis), Selvans (Silvanus), Aita (Hades), Phersipnei (Persephone), and Charu (Charon). But besides these borrowed names there are a host of genuine Etruscan deities, such as Tinia, who answers to Jupiter, Laran to Mars, Fufluns to Bacchus, Sethlans to Vulcan, Turan to Venus, Turms to Mercury, Thalna to Juno, Thana to Lucina, Thesan to Aurora, while the sun and the moon were called Usil and Lala. Of other deities no analogues have been found in the Greek or Roman pantheon. Lasa and Mean seem to be recording fates, Epiur, Snenath, Munthuch, and Malavisch to be guardian spirits, Tuchulcha, Astra, Nathum, and

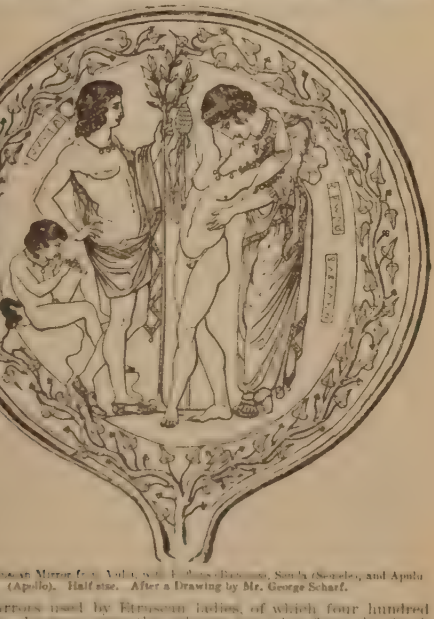


FIG. 3. Etruscan Mirror from Vulci, with Fufluns (Bacchus), Semla (Semele), and Apulu (Apollo). Half size. After a Drawing by Mr. George Scharf.

Tarsu avenging furies; Vanth, Lemth, and Culsu conductors of souls or deities of the tomb. More obscure are the functions of beings called Racuneta, Tahtna, Tethum, Thufla, Mlacuch, Achuvitr, Tipanu, Sitmica, and Ethausva. If anything were wanted to prove that the Etruscan mythology differed from that of all Aryan, Semitic, and Hamitic nations, this strange list of names would be sufficient. Classical writers have assigned to the Etruscans other deities whose names are not found in inscriptions, and which may be Sabine, Umbrian, or Faliscan. Among them may be enumerated Mantus and Mania, king and queen of the under world; Summanus, a god who ruled the night; Vertumnus, the god of autumn; Voltumna, whose temple was the meeting place of the federated states; Nortia, the goddess of Fortune, in the doors of whose temple at Volsinii nails were driven to mark the successive years; and the Novensiles, a collective name for those gods who hurled thunderbolts.

Civilization. The government was a loose federal union of the twelve cities or states, each ruled by magistrates annually elected from a class of hereditary sacerdotal nobles. The titles of these magistrates, Lauchme (Lucumo), Purtsvana (Porsena), and Marunuch, probably correspond to consul, imperator, and curator. The position of the wife was high; she is the social equal of the husband, she takes her place at the feast, her tomb is sumptuously furnished, and descent through the mother is recorded even more uniformly than through the father. The reliefs on the Afuna sarcophagus at Palermo, in which a matron bids farewell to her sorrowing family, afford a touching proof of the affection with which the wife and mother was regarded. Of the high civilization attained by the Etruscans we have abundant proofs. Till the battle of Cumae they were one of the three great naval powers of the Mediterranean. They excelled in medicine, astronomy, mining, metallurgy, and such engineering works as the construction of roads, tunnels, and chambered tombs. The walls of their cities, built of huge blocks, admirably fitted together without cement, remain to attest the skill of the artificers. The jewelry, of the Phoenician type, with patterns formed by soldering on minute grains of gold, is unrivalled. The skill of the bronze-workers is shown by the Chimaera and the statue of the Orator at Florence, by the Wolf in the Capitol at Rome, and by a magnificent lamp at Cortona. The earlier coins, which date from the 5th century B.C., show the influence of Asia Minor, while after the repulse of the Athenians in Sicily they are modelled on the coinage of Syracuse.

Many of the painted vases which have been found in such vast numbers in Etruscan tombs were either imported from Greece or made by Corinthian artists who had settled in E., the subjects represented being drawn mainly from Greek mythology or the cycle of Homeric legend. Some of these vases may have been prizes won in the national games, and deposited in the tombs as cherished possessions of the deceased, together with his armor and his weapons. In like manner, the polished mirrors and jewelry of Etruscan ladies were commonly placed in their tombs. But the tombs are themselves the most characteristic works which the Etruscans have left behind them. They are of two kinds: the stone pyramid or cone with interior chambers, which is manifestly a survival of the tumulus, and the rock-cut chamber, which is a survival of the cave. But Etruscan tombs are not merely sepulchres, they are abodes for the spirits of the dead, constructed on the model of the abodes inhabited during life; they are provided with chairs and other furniture; useful and ornamental objects were deposited by the body of the deceased, while the walls were decorated with subjects from daily life, or scenes from the under world. There is usually an antechamber in which the family could assemble at the annual funeral feast to do homage to the spirits of departed ancestors.

More than a hundred books have been written on the subject of the Etruscans and their monuments. The best general work is Die Etrusker by K. O. Müller, edited by Dr. Deecke (1877), supplemented by Deecke's Etruskische Forschungen and Pauli's Etruskische Studien. The inscriptions have been edited by Fabretti in his Corpus Inscriptionum Italicarum; the tombs are described by Dennis, Cities and Cemeteries of Etruria; the mirrors in Gerhard's Etruskische Spiegel. Corssen's book, Ueber die Sprache der Etrusker (1874-75), is already obsolete. See also Cuno, Vorgeschichte Roms (vol. ii., 1888); Jules Martha, L'Art Étrusque (Paris, 1888.)

EUROPE.—1.

EUROPE, *ū'rup*, is historically and politically by far the most important of the five great divisions of the world. It is, however, next to Australasia, the smallest in area, though in proportion to its size the most densely peopled. Geographers are agreed that, apart from its history, and significance for the history of civilization, it should be regarded rather as a peninsula of Asia, or as a portion of the great joint Eurasian continent; in regard to physical geography, fauna and flora, it is difficult to draw a sharp line between E. and Asia. On three sides E. is bounded by sea—n. by the Arctic ocean, w. by the Atlantic ocean, s. by the Mediterranean, sea of Marmora, and Black sea. But on the e. the Urals, Ural river, and Caspian, though commonly assumed as the boundary toward Asia, do not mark a precise limit in respect of climate, flora, fauna, or physical conditions generally (see this discussed at ASIA); and actually the governments of Perm and Orenburg in Russia in E. extend far beyond the Urals. Between the Caspian and the Black sea the ridge of the Caucasus seems a convenient dividing line between E. and Asia, but the Manytch depression is really, from the geographical point of view, a more correct boundary; physically the whole lieutenancy of the Caucasus is part of Asia (q.v.). It is more curious that n. Africa and s. E. are very closely related in many respects, geological and biological. It has even been said that the mountains of Auvergne divide n. France more sharply from Provence than the Mediterranean does Provence from Morocco and Algiers. But in current usage E. is bounded on three sides by sea, and elsewhere by the Kara river, the Urals mountains, Ural river, Caspian and the Caucasus.

Various etymologies have been proposed for the name E. The old mythological one was that it was named from Europa (q.v.)—why, was not very clear. Another was that it came from Eurus, the s.e. wind. A third, given by Hermann, notes that the name is first applied, not to the whole continent, but (in the Homeric Hymn to Apollo) to the mainland of Thrace, as distinguished from the Peloponnesus and the Greek islands, and suggests that E. therefore means Broad Land (*eurus ops*, 'broad face'). Of late the tendency is to assume that the name was first given by Phenician traders, and is from the word *Erebh*, 'darkness'—i.e. the land of sunset, of the w. The area to which the name of E. was applied grew with the extension of Greek geographical knowledge.

Europe has a total length from cape St. Vincent on the s.w. to the mouth of the Kara river on n.e. of 3,400 m.; and from North cape in Norway to cape Matapan, the s. point of Greece, a total breadth of 2,400 m. The continent of E., irrespective of islands, lies within 36° 20′–71° 10′ n. lat., and of 9° 30′ w.–66° 50′ e. long. Its area is estimated at 3,800,000 sq. m., being about a third of that of Africa, a fourth of that of America, and a fifth of that of Asia. It does not greatly exceed the total area of the United States. Its indented coast line is more extensive in proportion to its size than that of any other great natural division of the globe, and is estimated to measure little less than 50,000 m. This is caused by its great irregularity, and the number of deep inlets and gulfs which penetrate its surface. It has a population of nearly 330,000,000, which gives an average of nearly 87 for every square mile.

The body of the European continent divides itself naturally into two great portions—the great plain in the n.e. and the highlands from near the centre toward the s.w.—the mountainous peninsula of Scandinavia lying apart from either. The plain occupies about two-thirds (2,500,000 sq. m.) of the entire extent of the continent. It reaches from the e. boundary of Europe, n. to the shores of the Arctic ocean, s. to the Caucasus and the Black sea, and w. over the whole extent of the continent; gradually, however, becoming narrower toward the w. In shape this plain resembles a triangle, its base rests on the e. boundary, and it may be said to reach its apex on the shores of Holland. It separates the two mountain systems of E., the Scandinavian system (highest summit, [illegible] ft.) in the n. and n.w., from the system of s. E. The mass of the Alps, covering an area of nearly 100,000 sq. m., forms the centre of the mountain system of s. and w. E., and stretches down on four sides towards France, Germany, Hungary and Italy, the highest summit being [illegible]. The other chief mountain masses are the Carpathians [illegible], the [illegible], the Apennines [illegible], the Pyrenees [illegible], also the Sierra Nevada [illegible], and in Sicily, Etna [illegible]. The highest inhabited spot in E. is, since [illegible], the observatory on [illegible], [illegible] higher than the hospice of the Great St. Bernard. See ALPS, APENNINES, BALKAN, CARPATHIANS, PYRENEES, etc.

Europe is surrounded by water on three sides. The White sea comes in from the Arctic ocean; the German ocean and the Mediterranean from the Atlantic. The most important peninsulas are, in the n. Scandinavia, and in the s. the Crimea, Turkey, and Greece, Italy, and Spain. With the exception of Iceland, the islands cluster closely round the mainland, the chief being Great Britain and Ireland, Iceland, Nova Zembla, Sardinia, Corsica, and Crete (Candia). The lakes of E. are small as compared with those of Africa or America, the largest being Ladoga and Onega in Russia, and Wener in Sweden. The Volga (1,977 m.), the Danube (1,740), the Ural (1,450), the Don (1,125), the Kama (1,055), the Petchora (975), and the Rhine (765) are the largest rivers of Europe.

The details of the geography of E. are given under the names of its several political divisions, and of its lakes, rivers, and mountains.

Geology. The oldest rocks of E., viz., the Archæan and Palæozoic, occupy the most continuous area in the n. part of the continent. Thus, they extend over all the Scandinavian peninsula, Finland, and a considerable portion of n. Russia. In w. E. they are likewise well developed, as in the British islands, which (if we except the midlands, and the e. and s.e. parts of England) may be said to be mainly composed of Archæan and Palæozoic rocks. Similar rocks cover extensive areas in Brittany, in central France, and in the Iberian peninsula. In central E. they occur for the most part in sporadic areas of limited extent, which upon a geological map look like islands surrounded by younger strata than themselves. One of the largest of those areas is that which stretches from the n. of France through the Ardennes and s. Belgium into Rhenish Prussia, Westphalia, and Nassau. Another considerable tract occupies most of Bohemia, and smaller areas are met with in most of the mountain ranges of Germany and Austria-Hungary. Archæan and Palæozoic rocks likewise appear to form the nuclei of the Pyrenees, the Alps, and the Caucasus, while the Ural range is exclusively composed of such rocks. In the maritime regions of the Mediterranean, crystalline schists and Palæozoic strata are sparingly met with, as in s. and e. Spain, in Sardinia, and Corsica. Considerable tracts of schistose rocks, however, extend through Turkey, and appear in many of the islands of the Ægean sea, as well as in s. Greece, s. Italy, etc. Having mentioned the main areas at which these oldest rocks appear at the surface, it is not necessary to refer to the distribution of the Mesozoic and Cainozoic strata, save in the most general terms. They are confined chiefly to the low grounds of the continent, although now and again, as in the Pyrenees, the Alps, and the Caucasus, they rise to great elevations. It may be added also that they enter into the composition of not a few other hilly regions, such as the Carpathians, the Apennines, the high grounds of Herzegovina, Albania, etc. Accumulations of Pleistocene and Recent age are met with alike in mountainous and lowland regions. They are developed most continuously in the low grounds of central E., extending from the borders of the North sea across Germany far into Russia. They likewise form enormous tracts of flat land bordering on the Black sea, the Sea of Azov, and the Caspian. The alluvial lands through which the great rivers of E. flow belong to the same division of geological time, while the glacial deposits which form the under-soils throughout a large part of n. E., and which reappear in the mountain valleys of more s. regions, are all likewise included among Pleistocene and Recent accumulations.

Geologists are not yet agreed as to the origin of the Archæan rocks, and it is altogether premature, therefore, to speculate upon the physical conditions of E. at the period of their formation. All we know for certain is that the earliest land surfaces were composed of Archæan rocks.

Leaving the Archæan, we find that the next oldest strata are those which were accumulated during the Cambrian period, to which succeeded the Silurian, the Devonian (and Old Red Sandstone), the Carboniferous, and the Permian periods—all represented by great thicknesses of strata which overspread wide regions.

Now, at the beginning of the Cambrian period, we have evidence to show that the greater part of what was subsequently to become the continent of E. was still lying under water, the dry land being massed chiefly in the n. At that distant date a broad land surface extended from the Outer Hebrides n.e. through Scandinavia, Finland, and into Russia. How much farther n. and n.w. of the present limits of the continent that land may have spread we cannot tell, but it probably occupied wide regions which are now submerged in the shallow waters of the Arctic ocean. To the e. of Scandinavia a large inland sea or lake existed in Cambrian times, and there is some evidence to suggest that similar lacustrine conditions may have obtained in the Welsh area at the beginning of the period. S. of the n. land lay a shallow sea covering all middle and s. E. That sea, however, was dotted here and there with a few islands of Archæan rocks, occupying the site of what are now some of the hills of middle Germany, such as the Riesengebirge, the Erzgebirge, the Fichtelgebirge, etc., and possibly several of the Archæan districts of France and the Iberian peninsula.

The succeeding period was one of eminently marine conditions, the wide distribution of Silurian strata showing that, during their accumulation, enormous tracts of the present continent of E. were overflowed by the sea. None of these deposits, however, is of truly oceanic origin. They appear for the most part to have been laid down in shallow seas, which here and there may have been moderately deep. During the formation of the lower Silurian the whole of the British area with the exception, perhaps, of some of the Archæan tracts of the n.w., seems to have been under water. The submergence had commenced in Cambrian times, and was continued up to the close of the lower Silurian period. During this long continued period of submergence volcanic activity manifested itself at various points, Great Britain and Ireland being represented at that time by groups of volcanic islands scattered over the site of what is now Wales, and extending w. into the Irish region, and n. into the districts of Cumberland and s. Ayrshire. Toward the close of the lower Silurian period considerable earth movements took place, which had the effect of increasing the amount of dry land, the most continuous mass or masses of which still occupied the n. and n.w. part of the continent. In the beginning of upper Silurian times a broad sea covered the major portion of middle and probably all s. E. Numerous islands, however, would seem to have existed in such regions as Wales, the various tracts of older Palæozoic and Archæan rocks of s. Germany, etc. Many of these islands were partially, and some entirely, submerged before the close of Silurian times.

The next great period, that, namely, which witnessed the accumulation of the Devonian and Old Red Sandstone strata, was in some respects strongly contrasted to the preceding period. The Silurian rocks, as already mentioned, are eminently marine. The old red sandstones, on the other hand, appear to have been accumulated chiefly in great lakes or inland seas, and they betoken therefore the former existence of extensive lands, while the contemporaneous Devonian strata are of marine origin. Toward the close of the upper Silurian period, then, we know that considerable upheavals ensued in w. and n. w. E., and wide stretches of the Silurian sea bottom were converted into dry land. The geographical distribution of the Devonian in Europe, and the relation of that system to the Silurian, show that the Devonian sea did not cover so broad an expanse as that of the upper Silurian. The sea had shallowed, and the area of dry land had increased when the Devonian strata began to accumulate. In trying to realize the conditions that obtained during the formation of the Devonian and Old Red Sandstone, we may picture to ourselves a time when the Atlantic extended over the s. of England and the n. of France, and occupied the major portion of central E., sweeping into Russia, and how much farther we cannot tell. N. of that sea stretched a wide land surface, in the hollows of which lay great lakes or inland seas which seem now and again to have had communication with the open ocean. It was in these lakes that the old red sandstone was accumulated, while the Devonian or marine rocks were formed in the wide waters lying to the s. Submarine volcanoes were active at that time in Germany, and similarly in Scotland [illegible] volcanoes existed such as those of the Sidlaw hills and the Cheviots.

The Carboniferous system contains the record of a long and complex series of geographical changes, but the chief points of importance in the present inquiry may be very briefly summed up. In the earlier part of the period marine conditions prevailed. Thus we find evidence to show that the sea [illegible] land that it had during the preceding Devonian period. [illegible] the accumulation of the [illegible] one a deep sea covered the major portion of Ireland and England, but shallowed off as it entered the Scottish area. A few islands only seem to have represented Ireland and England at that time. [illegible] erous sea appears to have covered the low grounds of middle E. and enormous tracts in Russia. The deepest part of the sea lay over the Anglo-Hibernian and Franco-Belgian areas; toward the e. it became shallower. Probably the same sea swept over all southern E., but many islands may have diversified its surface, as in Brittany and central France, in Spain and Portugal, and in the various areas of older Palaeozoic and Archaean rocks in central and s.e. E. In the latter stages of the carboniferous period the limits of the sea were much circumscribed, and wide continental conditions supervened. Enormous marshes, jungles, and forests now overspread the newly formed lands. Another feature of the carboniferous was the great number of volcanoes—submarine and subaerial—which were particularly abundant in Scotland, especially during the earlier stages of the period.

The rocks of the Permian period seem to have been deposited chiefly in closed basins. When, owing to the movement of elevation or upheaval which took place in late carboniferous times, the carboniferous limestone sea had been drained away from extensive areas in central E., wide stretches of sea still covered certain considerable tracts. These, however, as time went on, were eventually cut off from the main ocean and converted into great salt lakes. Such inland seas overspread much of the low lying tracts of Britain and middle Germany, and they also extended over a broad space in the n.e. of Russia. It was in these seas that the Permian strata were accumulated. The period, it may be added, was marked by the reappearance of volcanic action in Scotland and Germany.

So far, then, as our present knowledge goes, that part of the European continent which was the earliest to be evolved lay toward the n.w. and n. All through the Palaeozoic era a land surface would seem to have endured in that direction—a land surface from the denudation or wearing down of which the marine sedimentary formations of the bordering regions were derived. But, when we reflect on the great thickness and horizontal extent of those sediments, we can hardly doubt that the primeval land must have had a much wider range toward the n. and n.w. than is the case with modern E. The lands from which the older Palaeozoic marine sediments of the British islands and Scandinavia were obtained must, for the most part, be now submerged. In later Palaeozoic times land began to extend in the Spanish peninsula, n. France, and middle E., the denudation of which doubtless furnished materials for the elaboration of the contemporaneous strata of those regions. S. E. is so largely composed of Mesozoic and Cainozoic rocks that we can say very little as to the condition of that area in Palaeozoic times, but the probabilities are that it continued for the most part under marine conditions. In few words, then, we may conclude that, while after Archaean times dry land prevailed in the n. and n.w., marine conditions predominated farther s. Ever and anon, however, the sea vanished from wide regions in c. E., and was replaced by terrestrial and lacustrine conditions. Further, as none of the Palaeozoic marine strata indicates a deep ocean, but all consist for the most part of accumulations formed at moderate depths, it follows that there must have been general subsidence of our area to allow of their successive deposition—a subsidence, however, which was frequently interrupted by long pauses, and sometimes by movements in the opposite direction.

The first period of the Mesozoic era—viz., the Triassic—was characterized by much the same kind of conditions as obtained toward the close of Palaeozoic times. A large inland sea then covered a considerable portion of England, and seems to have extended n. into the s. of Scotland, and across the area of the Irish sea into the n.e. of Ireland. Another inland sea extended w. from the Thüringerwald across the Vosges into France, and stretched n. from the confines of Switzerland over what are now the low grounds of Holland and n. Germany. In this ancient sea the Harz mountains formed a rocky island. While terrestrial and lacustrine conditions thus obtained in c. and n. E., an open sea existed in the more s. regions of the continent. Toward the close of the period submergence ensued in the English and German areas, and the salt lakes became connected with the open sea.

During the Jurassic period the regions now occupied in Britain and Ireland by the older rocks appear to have been chiefly dry land. Scotland and Ireland for the most part stood above the sea level, while nearly all England was under water, the hills of Cumberland and Westmoreland, the Pennine chain, Wales, the heights of Devon and Cornwall, and a ridge of Palaeozoic rocks, which underlies London, being the chief lands in s. Britain. The same sea overflowed an extensive portion of what is now the continent. The older rocks in the n.w. and n.e. of France and the central plateau of the same country, formed dry land; all the rest of that country was submerged. In like manner the sea covered much of e. Spain. In middle E. it overflowed nearly all the low grounds of n. Germany, and extended far e. into the heart of Russia. It occupied the site of the Jura mountains, and passed e. into Bohemia, while on the s. side of the Alps it spread over a large part of Italy, extending e. so as to submerge a broad area in Austria-Hungary and the Balkan peninsula. Thus the n. lats. of E. continued to be the site of the chief land-masses, what are now the central and s. portions of the continent being a great archipelago, with numerous islands, large and small.

The Jurassic rocks, attaining as they do a thickness of several thousand feet, point to very considerable subsidence. The movement, however, was not continuous, but ever and anon was interrupted by pauses. Taken as a whole, the strata appear to have accumulated in a comparatively shallow sea, which, however, was sufficiently deep in places to allow of the growth, in clear water, of coral reefs.

Toward the close of the Jurassic period a movement of elevation ensued, which caused the sea to retreat from wide areas, and thus, when the Cretaceous period began, the British region was chiefly dry land. Middle E. would seem also to have participated in this upward movement. Eventually, however, subsidence again ensued. Most of what are now the low grounds of Britain were submerged, the sea stretching e. over a vast region in middle E., as far as the slopes of the Urals. The deepest part of this sea, however, was in the w., and lay over England and n. France. Farther e., in what are now Saxony and Bohemia, the waters were shallow, and gradually became silted up. In the Mediterranean basin a wide open sea existed, covering large sections of e. Spain and s. France, overflowing the site of the Jura mountains, drowning most of the Alpine lands, the Italian peninsula, the e. borders of the Adriatic, and Greece. In short, there are good grounds for believing that the Cretaceous Mediterranean was not only much broader than the present sea, but that it extended into Asia, overwhelming vast regions there, and communicated with the Indian ocean.

Summing up what we know of the principal geographical changes that took place during the Mesozoic era, we are impressed with the fact that, all through those changes, a wide land surface persisted in the n. and n.w. of the European area, just as was the case in Palaeozoic times. The highest grounds were the Urals and the uplands of Scandinavia and Britain. In middle E. the Pyrenees and the Alps were as yet inconsiderable heights, the loftiest lands being those of the Harz, the Riesengebirge, and other regions of Palaeozoic and Archaean rocks. The lower parts of England and the great plains of central E. were sometimes submerged in the waters of a more or less continuous sea; but ever and anon elevation ensued, and the sea was divided, as it were, into a series of great lakes. In the s. of E. a Mediterranean sea would appear to have endured all through the Mesozoic era—a Mediterranean of considerably greater extent, however, than the present. Thus we see that the main features of our continent were already clearly outlined before the close of the Cretaceous period. The continental area then, as now, consisted of a wide belt of high ground in the n., extending roughly from s.w. to n.e.; s. of this, a vast stretch of low grounds, sweeping from w. to e. up to the foot of the Urals, and bounded on the s. by an irregular zone of land having approximately the same trend; still farther s., the maritime tracts of the Mediterranean basin. During periods of depression the low grounds of central E. were invaded by the sea, the irregular zone of land lying immediately to the s. was partially submerged, and so converted into groups of islands, and the Mediterranean at the same time extended n. over many regions which are now dry land. It is in these two low-lying tracts, therefore, and the country immediately adjoining them, that the Mesozoic strata of E. are chiefly developed.

A general movement of upheaval supervened at the close of the Cretaceous period, and the sea which, during that period, overflowed so much of middle E. had largely disappeared before the beginning of Eocene times. The s. portions of the continent, however, were still mostly under water, while great bays and arms of the sea extended n. now and again into central E. On to the close of the Miocene period, indeed, s. and s.e. E. consisted of a series of irregular straggling islands and peninsulas washed by the waters of a genial sea. Toward the close of early Cainozoic times the Alps, which had hitherto been of small importance, were greatly upheaved, as were also the Pyrenees and the Carpathians. The floor of the Eocene sea in the Alpine region was ridged up for many thousands of feet, its deposits being folded, twisted, inverted, and metamorphosed. Another great elevation of the same area was effected after the Miocene period, the accumulations of that period now forming considerable mountains along the n. flanks of the Alpine chain. Notwithstanding these gigantic elevations in s.-central E.—perhaps in consequence of them—the low-lying tracts of what is now s. E. continued to be largely submerged, and even the middle regions of the continent were now and again occupied by broad lakes, which sometimes communicated with the sea. In Miocene times, for example, an arm of the Mediterranean extended up the Rhone valley, and stretched across the n. of Switzerland to the basin of the Danube. After the elevation of the Miocene strata, these inland stretches of sea disappeared, but the Mediterranean still overflowed wider areas in s. E. than it does in our day. Eventually, however, in late Pliocene times, the bed of that sea experienced considerable elevation, newer Pliocene strata occurring in Sicily up to a height of 3,000 ft. at least. It was probably at or about that period that the Black sea and the sea of Azov retreated from the wide low grounds of s. Russia, and that the inland seas and lakes of Austria-Hungary finally vanished.

The Cainozoic era is distinguished in E. for its volcanic phenomena. The grandest eruptions were those of Oligocene times. To that date belong the basalts of Antrim, Mull, Skye, the Faroe islands, and the older series of volcanic rocks in Iceland. These basalts speak to us of prodigious fissure eruptions, when molten rock welled up along the lines of great cracks in the earth's crust, flooding wide regions, and building up enormous plateaus, of which we now behold the merest fragments. The ancient volcanoes of central France, those of the Eifel country and many other places in Germany, and the volcanic rocks of Hungary are all of Cainozoic age, while, in the s. of E., Etna, Vesuvius, and other Italian volcanoes date their origin to the later stages of the same great era.

Thus before the beginning of Pleistocene times all the main features of E. had come into existence. Since the close of the Pliocene period there have been many great revolutions of climate, several very considerable oscillations of the sea level have taken place, and the land has been subjected to powerful and long continued erosion. But the greater contours of the surface which began to appear in Paleozoic times, and which in Mesozoic times were more strongly pronounced, had been fully evolved by the close of the Pliocene period. The most remarkable geographical changes which have taken place since then have been successive elevations and depressions, in consequence of which the area of the continent has been alternately increased and diminished. At a time well within the human period the British islands have been united to themselves and the continent, and the dry land has extended n.w. and n., so as to include Spitzbergen, the Faroe islands, and perhaps Iceland. On the other hand, the British islands have been within a recent period largely submerged.

The general conclusion, then, to which we are led by a review of the greater geographical changes through which the European continent has passed, is simply this: that the substructure upon which all the sedimentary strata repose is of primeval antiquity. The dry lands are built up of rocks which have been accumulated over the surface of a great wrinkle of the earth's crust. There have been endless movements of elevation and depression, causing minor deformations, as it were, of that wrinkle, and inducing constant changes in the distribution of land and water; but no part of the continental ridge has ever been depressed to an abyssal depth. The ridge has endured through all geological time. We can see also that the land has been evolved according to a definite plan. Certain marked features began to appear very early in Paleozoic times, and become more and more pronounced as the ages roll on. All the countless oscillations of level, all the myriad changes in the distribution of land and water, all the earthquake disturbances and volcanic eruptions, in a word all the complex mutations to which the geological record bears witness—have had for their end the completion of one grand design.

Climate, Flora and Fauna. In respect of climate by far the greater portion of the area of E. belongs to the n. section of the temperate zone, though parts of Norway, Sweden and Russia lie within the Arctic circle. The s. parts of Spain, Sicily and Greece are some 12 degrees from the n. tropic. See RAINFALL; TERRESTRIAL TEMPERATURE.

The natural history of E. very much agrees with that of the corresponding latitudes of Asia. The natural history of the European countries on the Mediterranean sea is very similar to that of Asia Minor and of n. Africa. The natural history of the more n. regions of E. resembles that of the great plains of central Asia and Siberia. The most n. regions have the strictly arctic flora and fauna common in a great measure to all the arctic and sub-arctic regions; while the natural history of the most s. countries assume a subtropical character.

The temperature of the w. and n. parts of E. being raised by the Gulf stream and the winds from the great mass of dry and desert land in Africa above what is elsewhere found in similar latitudes, the flora and fauna exhibit a corresponding character, affected, however, by the great amount of moisture derived from the Atlantic ocean, and also to a still greater degree by the comparative uniformity of temperature which the proximity of the ocean produces. The effect of the last mentioned causes is so great that the n. limit of some plants is sooner reached on the shores of the Atlantic than in the more central parts of Europe, where the winters are much colder, and the average temperature of the year is lower. Of this the vine and maize are notable examples. Plants which require a mild winter will not grow in the n., and scarcely even in the centre of Europe, but they advance along the w. coast under the influence of the maritime climate. Thus the myrtle, although not indigenous, grows even in the s. of England. Among plants the date palm, and among animals a species of ape, are found in the s. of E., the ape only on the rock of Gibraltar; while some strictly African birds are frequent visitants, and many birds, as the cuckoo, swallow, etc., are common to E. and Africa, inhabitants in summer even of very n. regions, and returning in winter to the warm south.

Of the plants now most commonly associated in our thoughts with the s. countries of E., many have probably been introduced from Africa or from the e. This has probably been the case even with the myrtle, and certainly has been the case with the vine, the olive, the orange, lemon, etc., the fig, the peach, the almond, the apricot, etc. Some of the most extensively cultivated fruits are certainly indigenous to E., as the apple, pear, plum, and cherry, although even of these the first improved varieties may have been introduced from the earlier seats of civilization in the e. Among the wild animals of E. at the present day the bison is still reckoned, and the ox existed at no very remote period in a truly wild state. The reindeer inhabits the extreme n. of E.; the elk, the stag, the fallow deer, and the roebuck are found in more s. regions; the ibex or bouquetin exists on the highest central mountains; two species of antelope, the chamois of the Alps, and the saiga of the Russian plains, connect the European fauna with the Asiatic and African. Of mammals peculiar to this part of the palæarctic region the most notable are the chamois, the musk-rat, the fallow deer, the civet, ichneumon, and porcupine. Of carnivorous animals, the most worthy of notice are the bear, the wolf, the fox, and the lynx. On this head see the article GEOGRAPHICAL DISTRIBUTION and the sections on animal and vegetable life in the articles on the various countries. The European seas afford valuable fisheries, particularly of herring and of cod in the n., and of tunny, anchovy, etc., in the Mediterranean.

Ethnology.—The European races belong in the main to the various branches of the great Aryan stock (see ARYANS; ETHNOLOGY), though in few European countries is there a pure race, the admixture of various stocks being in some cases very great and close. But, generally, Celtic blood is most largely found in France, especially in Brittany, where a Celtic tongue is still spoken, and a part of Great Britain and Ireland. Teutonic peoples occupy Germany, Switzerland, Netherlands, part of Belgium, part of Austria, Denmark, Norway and Sweden, England and Lowland Britain. Slavonic races are found in Austria, Prussia, the Balkan peninsula, and Russia (see SLAVS). Romanic (Latin) race and blood are prominent in Italy, France, Spain and Portugal, and Roumania. The Greeks belong to the same Græco-Italic branch of the Aryans as the Romans. Non-Aryan peoples are the Finns, Lapps, and Samoyedes of the n. and the various Turanian tribes of the e. of Russia, the Magyars and the Turks and the Basques of the Pyrenees; though a strong element of non-Aryan blood is also to be traced in other parts of w. E., as in Ireland and Britain. The most obvious basis of classifying races is language. By this test some [illegible] of Europeans are Teutonic (German, English, Dutch, Flemish, Swedish, Norwegian, Danish); [illegible] Slavs (Russian, Poles, Czech, Slovak, Serb, Croat, Slovenian, Bulgarian); [illegible] Romance-speaking (French, Italian, Spanish, Portuguese, Roumanian, Walloon, [illegible]); [illegible] Letts and Lithuanians; 5,250,000 Greeks and Albanians; 3,600,000 Celtic (Welsh, Breton, Irish, Gaelic, Manx); [illegible] Armenians, [illegible], and Gypsies. Some [illegible] are not Aryan—Magyars, Finns, Lapps, Turks, Tartars, Turks, Kalmucks, Basques, Circassians, etc., and Maltese. Upward of fifty languages are spoken in E. But language is by no means a sure test of race; thus the Normans quickly took to speaking the Romance tongue of their Romanized Gallic subjects, the French—who, Celts, with a strong infusion of Frankish Germanic blood, and a smaller infusion of Italic blood, spoke a modified Latin tongue. Many parts of the German-speaking area are mainly Wendish or Prussian (Slavonic) blood. The Bulgarians, speaking a Slavonic tongue, are originally Ugro-Finnic. Fuller information must be sought in the articles on the various races and countries.

Political Divisions. The following table gives a comparative view of the states of E., their areas and populations; the populations are given according to the most recent censuses or estimates in 1889.

States.	Form of Government.	Extent in English sq. m.	Population.	Number of inhab. per Eng. sq. m.
Andorra	Republic with a sovereign council	175	6,000	34
Austria-Hungary	Limited monarchy, two chambers.	240,456	40,348,215	167
Bosnia, Herzegovina, etc.	Occupied by Austria	23,179	1,504,091	65
Belgium	Limited monarchy, two chambers.	11,373	5,974,743	520
Bulgaria and Eastern Roumelia.	Principality and autonomous province under Turkey	38,560	3,154,375	82
Denmark	Limited monarchy, two chambers.	14,124	1,980,259	140
France	Republic, two chambers	204,092	38,218,903	187
Germany	Limited monarchy, two chambers.	211,149	46,855,704	221
Great Britain and Ireland	Limited monarchy, two houses of parliament	120,832	37,453,574	310
Greece	Limited monarchy, one chamber.	25,014	1,979,453	79
Italy	Limited monarchy, two chambers.	114,110	30,260,065	264
Liechtenstein	Principality, one chamber	70	9,124	130
Luxemburg	Grand-duchy (connected with Netherlands)	998	213,283	213
Monaco	Principality	8	13,304	1,663
Montenegro	Principality, limited sovereignty.	3,630	236,000	65
Netherlands	Limited monarchy, two chambers.	12,648	4,450,870	352
Portugal	Limited monarchy, two chambers.	36,028	4,708,178	131
Roumania	Kingdom, two chambers	48,307	5,500,000	113
Russia (in Europe)	Absolute monarchy	2,095,504	88,205,353	42
San Marino	Republic, sovereign council	32	8,000	250
Servia	Kingdom, two chambers	18,750	2,013,690	107
Spain	Limited monarchy, two chambers.	197,670	17,358,404	88
Sweden and Norway	Limited monarchy, two chamber for each country	293,848	6,676,189	23
Switzerland	Republican federation, federal diet	15,892	2,957,527	186
Turkey (in Europe)	Absolute sovereignty	63,850	4,790,000	75

Religion.—Europe is practically a region of monotheists, though there are Buddhist Kalmucks in S. Russia, and Pagans among the Lapps, Finns, Samoyedes, and Tcheremisses. The Turks, some Russian Tartars, many Albanians and some Slavs are Mohammedans (6,600,000), and there are nearly 7,000,000 Jews; but the bulk of Europeans are professing Christians. The Catholic church may number some 156,000,000 adherents, the Greek church 80,000,000, while the various Protestant communions number about 76,000,000.

Historical Geography. The historical geography of the parts of E. known in the oldest times is treated in the articles ROME, BYZANTINE EMPIRE, GREECE, etc. In the articles on the various countries of E. (FRANCE, GERMANY, AUSTRIA, etc.) will be found detailed accounts of the origin and development of the several nations and countries; or in some cases (BURGUNDY, POLAND) of their gradual disappearance as separate states. In this place it seems desirable to give a sketch of some of the most notable changes in the political distribution and national divisions in the European area since the fall of the Roman empire, and to indicate the outstanding features of the political geography of E. at the four important periods into which its past Roman history naturally divides itself.

On the death of the Emperor Theodosius (395), the Roman empire was finally divided into two parts—the Latin empire, or Empire of the West, the capital of which was Rome; and the Greek empire, or Empire of the East, the capital of which was Constantinople. The Latin empire consisted of six dioceses—Italy, Gaul, Britain, Spain, western Illyricum, and Africa; the Greek empire consisted of seven dioceses—the East, Egypt, Asia, Pontus, Thrace, Macedonia, and Dacia. In some of these dioceses may be traced the outlines of modern European countries.

Beyond the pale of the organized society of the Roman world lay a great barbaric society divided into two parts—the German or Teutonic half geographically adjoining the western empire, and the Slavonic or Scythian half adjoining the eastern empire. The German barbarians were divided into a number of tribes and nations—Goths, Burgundians, Alemanni, Vandals, Longobards, Franks, Angles, Saxons, etc. Farther away were the nomadic Alans. The Slavs, the ancestors of the modern Russians, Poles, and others, had their seats still farther e., and took less share in the events of mediæval history. In the destruction which preceded the resurrection of modern European society it was chiefly the w. or Latin half of the Roman empire that was involved, and the destruction was effected by the irruption chiefly of German nations; it is mainly the Germanic peoples who have created the modern nations of E. Amongst the Germanic peoples the Goths were most prominent (see GOTHS). The Gothic tribes were located, at the period when the movement began, in the extensive tract between the Vistula, the Danube, the Black sea, and the Don, and were divided into Visigoths or Western Goths, and Ostrogoths or Eastern Goths.

The determining cause of the precipitation of the German races on the Latin empire was, it is well known, the sudden invasion of E. (375 A.D.) by the Turanian or Ugrian nation of the Huns. Their movement was perhaps ultimately due to the gradual desiccation of the plateaus of central Asia (see ASIA). Subduing the Slavonic region of E., and establishing there a Hunnish empire, which superseded that of its previous conquerors, the Goths, these fearful Asiatic invaders produced a violent agitation among the Germanic peoples, and pressed them w.—Goths, Vandals, Burgundians, Suevi, Alemanni, Franks, Angles, and Saxons, all together. The agitations produced in E. by the Huns, and by the conquest irruptions of the Germanic nations, sometimes in confederacy, and sometimes singly, into the provinces of the w. empire, were protracted over a whole century. It will be sufficient here to mention generally that the diocese of Gaul was overrun chiefly by Visigoths, Burgundians, and Franks, Spain by Vandals, Suevi, and Visigoths, Africa by Vandals crossing over from Spain; in Italy, successive invasions had left among the feeble native Italians a deposit of Visigoths, Vandals, Huns, etc.; Britain, abandoned by its Roman garrison as early as 410, had become a prey to the Angles and Saxons.

As soon as this intermixture of the two societies—the Roman or civilized and the Germanic or barbarian—had taken place, they began to act upon each other. Modern society, in short, is the perfect result of the incorporations of Roman with barbaric society, and it derives ingredients from both. From the barbarians were derived the love of personal liberty and the sense of individual independence. From the Romans, on the other hand, were derived the forms of a regular and long established civilization. But more efficient still, as a means of acting on the barbarian conquerors, was the great institute of the Christian church.

In the 5th cent. the Franks occupied n. France and part of central Germany; the w. Goths, France s. of the Loire; Burgundians, the valleys of the Rhone and the Saône and various adjoining territories; while the w. Goths were dominant over most of Spain, the Suevi holding the rest. The Thuringians were established in Thuringia; the Saxons in the large territory between the Meuse in the w. and the Oder in the e.; the Danes and other Scandinavians in the region they still hold. The Ostrogoths held s. E. from the Burgundian borders to the Danube, and the whole of Italy (which, however, in the latter part of the century, was occupied by the Lombards: see ITALY). The Slavonic Czechs were already in Bohemia; and the Bulgarians were between the Dnieper and the Danube.

In the latter part of the 8th cent. the Frankish empire of Charlemagne extended from the Ebro to the Elbe, and from the North sea to Rome, the Franks having conquered both the Goths of France and the Burgundians. The Frankish empire was repeatedly divided and reunited; but ultimately the two great divisions of Neustria (the kingdom of the w. Franks) and Austria (the kingdom of the e. Franks—Franconia, and not at all corresponding to what was later known as Austria) became the nuclei of the kingdoms and nations of France and of Germany.

In what is now Hungary were the Avars; while to the e. of the n. portion of the Frankish realms was the region of Slavonia, including Bohemians, Poles, and other Slavic peoples. E. of them again were that peculiar people the Khazars or Chazars (q. v.), belonging to the Finnic stock. Of the Gothic power in Spain nothing was left but the little kingdom of Asturia; the rest formed the Moslem sultanate of Cordova, the Mohammedans having established themselves in Spain in 711. Most of England and part of Scotland was now occupied by the English or Anglo-Saxons. The Eastern empire had greatly shrunk.

In the 12th cent. the kingdom of the e. Franks had become the representative and successor of the w. empire, and, as the Germanic or holy Roman empire, extended from the North sea to the states of the church, by this time the dominion of the popes. In the empire were the dukedoms or territories of Lotharingia or Lorraine, Franconia, Swabia, Bavaria, Thuringia, Bohemia, Austria, and Burgundy (the latter lately an independent kingdom). In S. Italy was the Norman kingdom of Sicily. Henry II. of Anjou, king of England, was lord of Normandy, Anjou, Brittany, and Aquitaine or Guyenne; the remainder of France being the kingdom of the successor of the kings of the w. Franks. The power of the English kings was more fully established in Guyenne than in Anjou, and Guyenne remained much longer a part of the English dominions in France. England had established her power over the e. part of Ireland. In Spain the Christian kingdoms of Leon, Castile, and Aragon were growing at the expense of the sultanate of Cordova. Poland and Russia were consolidated states with heathen Prussians and Lithuanians for their n. neighbors. The Hungarians were in their present dominions; Bulgaria and Servia still limited the decreasing e. empire on the n., while the latter was threatened on the e. by the dreaded Turks.

At the Reformation in the 16th cent. Charles V. was not merely emperor in Germany, but king of Spain (whence the Moslems, long confined to Granada, had been driven), Sardinia, Sicily, and Naples, and ruler of the Netherlands and of the county of Burgundy. From the 15th cent. onward the imperial crown remained with the Hapsburgs. Ferdinand I., archduke of Austria and (after the abdication of his brother Charles V.) emperor, obtained by marriage Silesia, Bohemia, and Hungary (as much of it as was not Turkish). These all became, like the archduchy and connected territories, hereditary domains of the house of Hapsburg; but while Bohemia, like the archduchy, was a fief of the empire, Hungary with its dependencies was no part of the empire at all. From the middle of the century till near the end of the 17th, the Hapsburgs held the n. w. part of Hungary, while the Turks, who had wiped out the e. empire, occupied the rest, a pasha ruling at Buda. Transylvania, Moldavia, and Wallachia were Turkish tributary principalities. Dalmatia was divided between Venice and Hungary. At the peace of Westphalia in 1648, which closed the thirty years' war, the power of the empire was weakened, while that of France increased, part of Alsace being given to France. By the 15th cent. France had acquired most of the territory of the old kingdom of [illegible] between [illegible] and the Mediterranean. [illegible] the French province of [illegible], but it was not till 1674 that [illegible] the French provinces [illegible] in 1681. Avignon had become a papal possession in 1348, and did not become

French till 1791. The duchy of Savoy was becoming more and more an Italian power. Spain still held the Spanish Netherlands and great part of Italy. The Protestant Netherlands and Switzerland were become independent states. Sweden had acquired territories from Germany, Poland, and Russia, and was one of the great powers. She held not merely Finland, but all the lands around the gulf of Riga, including Esthonia and most of Livonia. Sweden also held w. Pomerania, Wismar, Bremen, and Verden, not as Swedish territory, but as fiefs of the empire; the ancient possessions of Denmark in the n. peninsula were acquired by Sweden in 1658. The duchy of Prussia had become independent of Poland in 1657. Poland, which early in the 16th cent. had been one of the most powerful states of E., holding under its sway a great part of Russia, now lost in power and territory, while Russia steadily grew. Turkey held part of the former dominions of the e. empire, the Austrian princes the rest. Venice was the most important native Italian power. Genoa held Corsica till 1768.

Before the outbreak of the French revolution Poland had ceased to exist as a state, Prussia had risen to greatness, and Russia had been greatly aggrandized. Sweden had fallen from her temporary hegemony of n. E. The Spanish Netherlands had belonged since 1713 to the house of Austria; French Bourbons held those parts of Italy that had been Spanish. The French revolution began a series of changes in the distribution of power which culminated in the extension of Napoleon's empire over all Germany w. of the Rhine, and great parts of n. Germany, the Netherlands, and most of Italy; a portion being directly incorporated with the empire, another separately held by Napoleon himself as his kingdom of Italy, while his brother-in-law was king of Naples and his brother king of Spain. After the fall of the empire, France retired within her old limits; the minor German princes constituted their states in a loose confederation, and of this Austria assumed the presidency. Italy was parcelled out among numerous despotic princes, and the Venetian dominions became Austrian. The Netherlands became once more a kingdom, ultimately separated into Holland and Belgium.

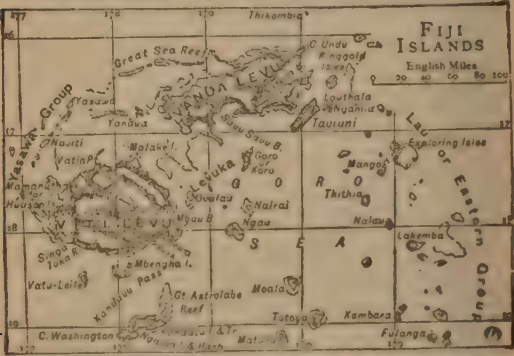
The chief changes on the map of E. since the middle of the 19th century have been the consolidation of Germany as an empire, under the headship of Prussia, and the restitution to it of Alsace-Lorraine; the retirement of Austria out of Germany, and her reorganization as the Austro-Hungarian monarchy; the unification of Italy as a kingdom, and the gradual diminution of Turkish territory by the recognition of the independence of Roumania, Servia, and Montenegro, and of the autonomy of Bulgaria.

As has been already said, the continuous history of the developments sketched or hinted at here must be sought in the articles on the various countries named; see, too, the Historical Geography of Europe, by E. A. Freeman (2 vols., 1881), his General Sketch of European History (2d ed., 1877), Primer of History of Europe (1876), and Chief Points of European History (1886); T. H. Dyer, History of Modern Europe 1453-1871 (2d ed., 5 vols., 1877); C. A. Fyffe, A History of Modern Europe, 1792-1848 (2 vols., 1881-86); Lodge, Modern Europe (1885); and the works of Gibbon and Hallam. For Geography and statistics, see the relevant parts of Kiepert and Reclus; 'Europe,' in Stanford's Compendium of Geography (1885); J. Geikie's Prehistoric Europe (1881); the annual Almanach de Gotha and Statesman's Year-book; and the works cited in the articles on the several countries in this work.

FIJI, *fē'-je:* The Fiji or Viti islands are a British dependency in the s. Pacific ocean, situated in 15°–22° s. lat. and 176° e.–178° w. long. Their nearest neighbors are the Tonga or Friendly islands, between 200 and 300 m. to the s.e.; they are about 700 m. from the French colony of New Caledonia, 1,100 m. from Auckland in New Zealand, 1,700 from Sydney in New South Wales, 1,800 from Tahiti, and 4,700 from the great American port of San Francisco. They have mail communication with Auckland once a month, and with Sydney on an average once a fortnight. The island of Rotumah, about 250 m. distant, a little to the w. of n., has been since 1881 included in the colony.

The islands were sighted in 1643 by Tasman, the great Dutch sailor, whose name is borne by Tasmania. Turtle island (or Vatoa), in the extreme s.e. of the group, was discovered and so named by Capt. Cook in 1773; but, like most of the South Sea islands, the Fiji archipelago was little known before the 19th cent. Since that date its history has been the not uncommon one of native dissensions, gradual European intrusion, and finally European protection. In 1804 some escaped prisoners from Australia are said to have settled in the islands. In 1835 Wesleyan missionaries first came over from Tonga to begin their wonderful work of conversion to Christianity; and trade, which had begun with dealings in such articles as bêche de mer and sandalwood, gradually led to a small white settlement.

In 1849 some damage was done to the property of the American consul; a heavy claim was in consequence preferred by the United States government against the leading chief Thakombau, which he was wholly unable to meet, and in 1858 he offered the sovereignty of the islands to Great Britain, on condition that he retained his rank and that his debt was paid. As a set off to the payment he offered to make over, if required, to the British government the ownership in fee simple of 200,000 acres of land. Upon receipt of this offer a special commissioner, Col. Smythe, was sent to F., charged to report especially upon its prospective advantages as a naval and coaling station and as a place for cotton growing. On his advice the offer of sovereignty was in 1862 rejected. The following years brought a considerable increase to the white population of the islands, cotton planting being stimulated by the American civil war. About 1868 a company was formed in Australia under the name of the Polynesia Co., to take over Thakombau's debt, and with it the 200,000 acres referred to above. In 1871 a kind of constitutional government was set up by the European advisers of King Thakombau; but the cession of the islands to Great Britain was again pressed on; and, after further inquiry, in 1874 Sir Hercules Robinson, then governor of New South Wales, was sent to F., and on 1874, Oct. 10, formally accepted the sovereignty of the group on behalf of the British crown.


FIJI ISLANDS
English Miles
0
20
40
60
80
100
Thikombia
C. Undu
Ringgold Isles
Great Sea Reef
VANUA LEVU
Louthala
Ngamia
Tavuni
Yasawa Group
Yasawa
Yandua
Naviti
Vatia P.
Malake I.
Savu Savu B.
Goro or Koro
Levuka
Ovalau
Nairai
Ngau
Mbau B.
Mamanutha or Hausan Is.
VITI LEVU
Singatoka R.
Mbengha I.
Vatu-Leile
Kandavu Pass
Gt. Astrolabe Reef
Moala
Totoya
Kambara
Fulanga
C. Washington
Matuku
Mangos
Thithia
Nalau
Lakemba
Exploring Isles
Lau or Eastern Group
KORO SEA
177
178
179
180
16
17
18
19

Fiji was constituted at first as a crown colony, with a governor (who is also high commissioner for the w. Pacific), an executive council and a legislative council composed, in addition to the governor,

of six officials and six nominated unofficial members. The natives are organized in village, district, and provincial councils (the colony being divided into 14 provinces), and have a special system of taxes, paid mainly in kind.

The Fiji islands, over 200 in number, lie in a ring, open on the s. side. The configuration of the group is not unlike that of the West Indies. On the w. and n. are the two large islands of Viti Levu and Vanua Levu, with a group of small islands and reefs outside them; and on the e. there is a long string of islands of small size, answering to the Leeward and Windward groups in the West Indies.

The total area of the colony (including Rotumah) is given at 7,435 sq. m., being about the same size as Wales. The area of Viti Levu is over 4,000 sq. m., rather smaller than Jamaica, and the area of Vanua Levu is about 2,400 sq. m. Since 1882 the capital of the colony has been Suva, on the s. coast of Viti Levu, where there is a fine harbor; before that date Levuka, on the little island of Ovalau, off the e. coast of Viti Levu, also possessing a good harbor, was the European capital. Municipalities have been established at both places.

The F. islands are of volcanic formation, the shape of the mountains (the highest of which rise to some 4,500 ft.) and the existence of hot springs testifying to volcanic agency; and they are surrounded by coral reefs, which act as natural breakwaters. They are singularly favored by nature, being well supplied with harbors, and equally well with rivers, having an abundant water supply, a rich soil, and a climate which, though tropical and somewhat enervating to Europeans (who are subject to dysentery), is not unhealthy or extreme. They suffer, however, from the ravages of hurricanes, and earthquakes occasionally occur. In 1887 at Suva the shade temperature varied from a maximum of 90 in Nov. and Jan. to a maximum of 62 in Aug., and the rainfall was about 100 inches. The rainfall is greatest, and the land is most heavily timbered, on the s.e.—the windward—side of the island; on the leeward side the face of the country is more that of open grass land. With the exception of the bêche de mer and pearl shell industries, the resources of F. are almost purely agricultural. In addition to the timber and fruit trees, the latter including bananas, bread fruit, etc., and in addition to the cocoanut palms, the vegetable products of the islands include sugar, grown with the help of imported Indian and Polynesian labor, maize, cotton, tea, and coffee. There are hardly any indigenous animals in the islands, and but scanty signs of mineral wealth.

The population of F. was estimated in 1887 at about 125,000, of whom over 2,000 were Europeans, and over 110,000 native Fijians. The native population is said to have been larger in former years, and was certainly reduced by the outbreak of measles in 1875. The death rate among the natives is high, an average of some years showing a rate per 1,000 nearly double that of England and Wales. They are in race akin to the Papuans, being the easternmost members of that family, but an admixture of the lighter Polynesians has been brought in from Tonga and elsewhere and has, especially in the e. islands of the group, leavened the native Melanesian breed. The Fijians were, prior to the introduction of Christianity, notoriously ferocious cannibals, but religious after their kind, and possessing a strong belief in a future life. At the present time the Christian religion is almost universal in the islands, the adherents of the Wesleyans being estimated at over 100,000, and of the Roman Catholics at more than 10,000. Education is mainly carried on in the mission schools, with the assistance of grants in aid from government; at Suva and Levuka there are school boards, and in Vanua Levu a government industrial school. F. has not prospered financially of late years, and the revenue, derived mainly from customs duties and native taxation, has not covered the expenditure. In 1882 the revenue was $[illegible]; in 1887, $[illegible]. Sugar, in spite of the depression of the industry, is far the most important export, and next to it in value come cocoanuts (mainly in the dry form known as copra) and fruit. The export of cotton has greatly diminished, but that of tea in 1887 showed a large increase. The total annual exports have during the decade 1877-87 fluctuated from $[illegible] to $[illegible]; the imports from $[illegible] to $[illegible]. The trade of the colony, both import and export, is mostly with New South Wales, New Zealand, and Victoria.

See the Blue-book 1882, 'Report on the Vegetable Productions and Resources of the Vitian or Fijian Islands,' by Dr. Seeman. Also Miss Gordon Cumming's At Home in Fiji (1881) and works by Williams, Calvert, Smythe, and Pritchard.

FINLAND, *fin'-land* (Finnish *Suomi*, or *Suomenmaa*, 'the land of fens and lakes'), a grand-duchy annexed to Russia in 1809, though politically a part of that country, is an independent state from an administrative point of view. Finland lies between 60° and 70° n. lat., and 20° and 32° e. long., and is bounded on the n. by Norway, on the e. by the Russian governments of Archangel and Olonetz, on the w. by the Gulf of Bothnia, and on the s. by the Gulf of Finland. Its greatest length is 717 miles, its average breadth about 185 miles. The population of the grand-duchy, which was less than 1,000,000 at the time of the annexation, rose to 1,636,915 in 1850, and to 2,232,378 in 1887, of which number about 85 per cent. are of the native Finnish race, 12 per cent. Scandinavians (*i.e.*, descendants of the Swedes who governed the country or settled in it during the six and a half centuries that F. formed an integral part of the kingdom of Sweden), the rest being Russians, Germans, and Lapps. Of the population in 1887 the great majority, or 2,180,074, were of the Lutheran state religion, and 41,032 of the Russo-Greek faith. The inhabitants of Helsingfors, the capital (pop. 65,000), are mostly of Swedish descent, as is also the case at Abo and all along the south and west coasts. About 80 per cent. of the inhabitants belong to the agricultural class, being for the most part peasant-proprietors, with holdings of from 10 to 30 acres. The area of F. is nearly 145,000 sq. m. (or rather larger than Great Britain and Ireland), the surface presenting a singular aspect.

A glance at a map shows the coast to be extremely indented, and studded with thousands of small islands, forming a perfect archipelago (Swedish *skärgård*), while the interior of the country is occupied with countless lakes, some of vast size, and mostly connected with each other naturally or artificially by means of canals. In fact, it is doubtful whether any country in the world is so well supplied with the means of inland navigation as F., 12 per cent. of the total area being occupied by lakes, and 15 per cent. by marsh and bog, the quantity of which latter is gradually being diminished by the united efforts of nature and man, for it has been proved by careful observation that the surface of F. (which is a table-land from 300 to 600 feet above the level of the sea) is gradually rising from its watery bed, and that, too, in some places at a rapid rate. Thus, it has been calculated, by means of points fixed on the seashore, that on the Gulf of Bothnia the land has risen at the rate of 3 feet 1 inch in 100 years, and on the Gulf of Finland at the rate of 1 foot 11 inches. The largest of the lakes (besides Lake Ladoga, of which part belongs to Russia) are Lakes Saima, Enare, Kemi, Uleå, and Pajanne. The Saima consists of 120 large lakes and several thousand smaller ones all connected, and having a natural outlet into Lake Ladoga, over the famous Imatra falls (more correctly rapids), the finest in Europe both from the scenery and volume of water. Lake Saima is likewise connected with the Gulf of Finland by means of a splendid canal 36 miles long, with no less than twenty-eight locks. The canal, which took twelve years to complete, was designed and carried out by Finnish engineers at the cost of the state, and is a triumph of engineering skill, as it runs for many miles through granite rock, and there is a difference of 250 feet between the levels of the extremities. The surface of F. consists of primitive rocks, as gneiss, granite, diorite, and gabbro. Neither fossils nor coal are found.

F. has no mountains worthy of the name, the highest being Haldefjäll, in Lapland (Lapp *[illegible]*), 4,126 feet high, near the frontier of Norway, and really belonging to the Norwegian range. The highest hill in the south is [illegible], and this does not exceed 754 feet above sea-level. The average height of the interior of F. is about 425 feet above the level of the sea. On account of this lack of mountain-ranges the rivers of F. are unimportant, the principal being the Kemi and Ulea in the north, and the Kymmene in the south. They are mostly navigable only for a part of their length, owing to rocks and rapids, but they are well suited for floating logs from the forests of the interior to the coasts, besides which they [illegible] power for many mills, and are also rich in fish. The forests of F. are of vast extent, covering no less than three-fifths of the total surface. More than half of them [illegible] that F. [illegible] as the cutting of the forest is carefully regulated; whereas private owners have [illegible] themselves by a reckless and extravagant [illegible] of tree-felling. The Scotch fir (*Pinus sylvestris*) and Norway spruce (*Abies* or *Picea excelsa*) are the most widespread and most productive; then come the birch, alder, ash, oak, etc., of which the three first mentioned alone grow far north, the others being found only in the centre and south of F. Among the fruit trees which have been successfully acclimatized in Finland are the apple, pear, cherry, etc., but they produce no fruit in the north of the country beyond lat. 63°; currants, raspberries, strawberries, etc., thrive almost everywhere. Of cereals, rye is the most grown, then barley, oats, and wheat; this latter, however, rarely ripens beyond lat. 61°. The potato flourishes as far north even as lat. 69°; after rye it forms the staple food of the inhabitants. The fauna of F. is very rich. Among wild animals we find the bear, wolf, fox, lynx, ermine, otter, and hare; but the elk (*Alces*) and beaver, which were formerly abundant, are now rare. Seals are plentiful along the coast, as also in the Saima and Ladoga lakes. All domestic animals thrive in most parts of F., but are replaced by reindeer in the far north. Finnish horses are remarkable for their speed, hardihood, and docility. Of birds there are 241 species (not counting the domestic sorts), including ptarmigan, blackcock, moorcock, swans, geese, ducks, many varieties of birds of prey, and most of the smaller birds common in Great Britain. We find 80 species of fish in the rivers, lakes, and seas of F. Of these, a kind of herring (Swedish *strömming*) is very abundant on the south and south-west coasts. Salmon, trout, perch, pike, gwyniad, etc., abound in most of the rivers, and give employment to a considerable proportion of the population. Fish forms an important element in the food of all classes, large provision of the same being salted or smoked for the winter-season.

The climate of F. is very rigorous in winter, even on the south coast, where 20° and 25° below zero (Fahrenheit) are often registered, but it is generally healthy, and, owing to the proximity of the sea, it is far milder than North Russia or any other region in the same latitude except Sweden and Norway. The summer, though short, is occasionally very hot in June and July. The ground is generally covered with snow from the middle of November till April, then follows a brief spring, accompanied by a rapid growth of vegetation. Autumn is likewise short, September being often very fine and October wet. The long summer days, when the sun only goes below the horizon for an hour or two, have a peculiar charm. At Abo the mean temperature of the year is 40° (Fahrenheit), and at Helsingfors 39°. At the latter place February is the coldest month, with an average of 17° (Fahrenheit), and July the hottest, with 62°. In the north and north-east of F., of course, the winters are longer and more severe, the mercury frequently freezing in the thermometer. The annual rainfall at Helsingfors is 20 inches, the prevailing winds being south and south-east.

The emperors of Russia are at the same time grand-dukes of F., with considerable power, such as the right of declaring war and peace, the imposition of duties, the appointing of the senators and other high officials; nor do the various bills that pass through the house of representatives become law till they have received the imperial sanction. The country is governed by the grand duke, the senate, and the diet (Swedish *Landtag*). The senate consists of 20 members, appointed by the grand duke from among the Finnish subjects recommended to his imperial majesty by the governor-general of F., who is a Russian subject, and commands the Russian troops that garrison Sveaborg and other strong places in the grand duchy. The diet consists of four chambers (nobles, clergy, burgesses, and peasantry), the nobles having hereditary legislative rights, while the others are elected by the members of their respective classes. In the session of 1888 these chambers were represented by 125 nobles, 35 clergy, 35 burgesses, and 61 peasantry. According to law the diet must meet once in five years, but of late it has been convoked every three years.

Education in F. is in a highly advanced state, no less than 91 per cent. of the adult population being literate, while of the children capable of attending school only 2 per cent. are not in receipt of instruction. There is one university, at Helsingfors, with four faculties (theological, legal, medical, and philosophical) and 1,008 students [illegible] a total of 441 students in 1883. There are besides [illegible] lyceums, [illegible] elementary and *real schulen* for boys, [illegible] girls' schools, 4 seminaries for the training of teachers, and 929 popular schools, besides several nautical, commercial, and agricultural schools. Formerly Swedish was the official language of F., but since 1883 Finnish and Swedish have been placed on the same footing. At the university and the higher educational establishments Swedish is still mostly used, but in the popular schools Finnish is the medium of instruction as a rule. Russian is almost an unknown tongue in Finland.

For administrative purposes the grand-duchy is divided into 8 counties (Swedish *län*): Nyland, Abo-Bjorneborg, Tavastehus, Viborg, St. Michel, Kuopio, Vasa, and Uleaborg. Each county has a governor at its head. The courts of law are held at Abo (the former capital), Vasa, and Viborg. The chief towns are Helsingfors (53,370 in 1886), Abo (26,148), Tammerfors (16,744), Viborg (16,639), and Uleaborg (11,578).

The railways of F., which with the exception of one short line all belong to the state, show a total length already of 1,112 miles, while other lines are in course of construction. The telegraphic department is under the control of the Russian government, and telephones in the hands of private companies have been established throughout all the towns of the grand duchy. In Helsingfors the telephone system has reached an astonishing development, few houses being without it.

The finances of the grand-duchy are in a most flourishing condition, and are quite distinct from those of Russia. The revenue in 1888 was $8,276,825, including a surplus of $1,409,895 from the preceding year, while the expenditure was only $7,142,709. The public debt of F. amounted, 1888, Jan. 1, to only $13,592,564, nearly all of which sum has been expended on public works, education, etc., and is more than balanced by the state property. By the law of 1886, July, the French decimal system, which had previously been adopted for the Finnish currency (the mark = 1 franc, and the penni = 1 centime), was extended to weights and measures as well, the French names being retained. The rate of exchange of the Finnish mark has hardly varied during the last 20 years, and notes or gold are at par.

F.'s army consists of 5,400 men in time of peace, with about 20,000 reserves. These troops are divided into nine battalions of sharpshooters and one regiment of cavalry, this latter formed in 1889. Both officers and men must be Finnish subjects, and are only to be employed for the defence of F., except as regards the battalion of Finnish guards, which generally accompanies the emperor and grand-duke in his wars, as was the case in the last Russo-Turkish campaign. F. has no navy of her own, but possesses a thriving commercial marine, which in 1887 numbered 2,175 vessels of 268,200 tons' register. Finnish ships, however, sail under the Russian flag. The value of the merchandise exported from F. in 1887 was $14,930,824, the principal being timber, $5,626,000; butter, $2,134,000; and paper, $1,293,000. The imports amounted to $20,537,840, of which cereals represented $2,532,000; iron and steel, $2,134,000; coffee, $1,652,000; textiles, $1,614,150; and sugar, $1,104,000. Nearly half of F.'s trade is with Russia, Germany being second, and Great Britain third on the list. There were in 1889 some 1,750 factories and other industrial establishments in the grand-duchy, employing 22,000 hands. Of these the sawmills are the most important. Large quantities of iron are found in F., and copper, tin, silver, and gold exist; gold does not pay the cost of working. The grand-duchy formerly suffered severely from occasional famines (the last was in 1868) owing to short or wet summers, but these disasters have now been obviated by means of railways, canals, and improved agriculture. Physically the Finns proper are a strong, hardy race, with round faces, square shoulders, fair hair, and blue eyes, though intermarriage with Scandinavians and Russians has in many cases caused variations. They are of a somewhat phlegmatic temperament, but are honest, hospitable, clean, strictly moral, and very tenacious. The love of strong drink by which they were once distinguished is rapidly giving way before the spread of education and temperance doctrines. They possess many of the characteristics of the Mongolian races, to which they are ethnically related, and have a keen sense of independence and personal freedom, serfdom never having existed in the country, except in the county of Viborg when it was in Russian hands.

History.—The Finns belong, as their tongue indicates, to the great Turanian or Ural-Altaic family, which still predominates in northern and central Asia. About the end of the 7th century or the commencement of the 8th the Finns, driven as it is supposed by the Bulgarians from their settlements on the Volga, took possession of the country they now occupy; but they found inhabitants there already, whose memory popular tradition has handed down under the names of Hiidet, Jattilaiset, Jatulit, and Jotunit. Probably the modern Lapps are the descendants of those primitive inhabitants. In the 12th century the Swedes turned their attention to F., more especially for the introduction of Christianity; but the struggle with paganism was long and obstinate, lasting for nearly 200 years. Three separate crusades (1157, 1249, 1293) finally brought about the subjection of the country to Sweden, and the adoption of the Christian religion. The first of these crusades was led by King Erik the Holy, accompanied by Henrik, bishop of Upsala, an Englishman by birth. The latter was soon afterward cruelly murdered by a fanatic Finnish peasant, and Henrik the Martyr has ever since been regarded as the patron saint of F. For over 600 years F. was united with Sweden, and thus received the incalculable advantages of Christianity, civilization, a constitution, and liberal laws. The Reformed religion was introduced into F. by Gustavus Vasa in 1528, and King John III. raised the country to the dignity of a grand duchy. F., however, became the theatre of frequent bloody struggles between Russia and Sweden, culminating in the cession of the whole country to Russia in 1809 by the peace of Fredrikshamn. Alexander I., however, in annexing F. to Russia, promised the inhabitants that their constitution, religion, and laws should be faithfully preserved, as when under Swedish rule. This promise has been ratified by succeeding emperors, and thus we find the anomaly at the present day of a constitutional state in an autocratic country. F. is certainly the best governed, and it might be added the most prosperous, part of the czar's vast dominions.

For further information, see Koskinen, Finnische Geschichte (Leip., 1873); Ignatius, Le Grand duché de Finlande (Helsingfors, 1878); Jonas, Das Grossfürstentum Finland (Berlin, 1886); Annuaire statistique pour la Finlande (Helsingfors, 1888); also Senator Mechelin's Précis du droit public de Finlande (Helsingfors, 1886), of which an English translation by Charles J. Cooke was published in 1889 (Chapman & Hall, London).

Language and Literature. The Finnish language is one of a group of five Ugro-Finnic tongues which constitute a branch of the great Ural-Altaic family of languages, comprising the Manchu, Mongol, Turkish, and Samoyede. The Ugro-Finnic group includes (1) the language of the Finns in F., and the Esthonian (q.v.); (2) the tongue of the Lapps; (3) of the Finns of Perm; (4) of the Finns of Vologda; and finally (5) that of the Ugrian Finns, to which last belong the Volga and Ostiak dialects in Siberia, and the Magyar in Hungary (see HUNGARY). The most highly cultivated language of the group is that spoken by the Finns proper, the Suomi of F. The Finnish dialects are all agglutinative forms of speech, with tendencies toward true inflection, so that occasionally the difference between agglutination and inflection is somewhat obscure. The nouns are not inflected, an additional word being used to denote the variations of case, number, and sex, while the prepositions and pronouns are suffixed to the words they modify. The verbs have only a present and past tense, another word being required to indicate the future. Rask considered the Finnish language to be one of the most sonorous and harmonious of tongues, and there is no doubt that as it is developed it will be more and more appreciated.

The literature of F. was formerly almost entirely devoted to religious subjects. Part of the Old Testament had been translated in the 16th century, but it was not till 1642 that the whole of the Bible was made accessible to those who did not know Swedish or Latin. The credit of rescuing the Finnish language from comparative oblivion belongs to Dr. Zacharias Topelius and to Dr. Elias Lönnrot of Helsingfors. The former published a collection of scattered songs in 1822, but in 1835 Dr. Lönnrot gave to the world his famous epic Kalevala, being a systematic collection of popular songs handed down from the lips of peasantry during years of patient research and wandering. By unwearied diligence he succeeded in collecting 12,000 lines of *runot* and *sagat* that for generations had been handed down by the *Runolainen*, or singers to the sound of the kantele, a sort of primitive harp. Not much lontice was paid to this remarkable publication at first, but when in 1849 Dr. Lönnrot, who had energetically continued his researches meantime, published a new and extended edition of 22,793 verses in fifty runes, its importance was soon recognized by philologists, and it was translated into Swedish, German, and French. The Kalevala is a singular monument of the earlier culture of the people, and has given rise to much critical literature, scholars not agreeing as to the character of the plot, some regarding the incidents as allegorical, others as referring to definite epochs. All, however, are of accord in considering the poem a pure epic with an oriental appreciation of nature, and rich in images, tropes, and synonyms. The poem is written in eight-syllabled trochaic verse, and an idea of its style may be obtained from Longfellow's Hiawatha, which is known to be an imitation of the Finnish epic. Professor Max Müller compares the Kalevala with the Iliad in length and completeness, and adds that 'it will claim its place as the fifth national epic of the world, side by side with the Ionian songs, with the Mahábhárarta, the Shahnameh, and the Nibelungen Lied.' The Kalevala has been translated into English by J. Martin Crawford (New York, 1888, and London, 1889). There are translations by Kollan and by Castrén (Swedish), by Barna and by Ujfalvy (Hungarian), by Schiefner (German), and by Le Duc (French). A Finnish-English grammar was published in 1889 at Oxford, by E. J. Eliot, secretary of embassy.

The first Finnish printed book was an Abecedarium in 1543; the Bible was not translated till 1642. During the 19th century, and especially within the last twenty years, there has been great literary activity in F., and the Russian government encourages in every way the development of the Finnish tongue *versus* the Swedish, which latter language, though still spoken by the higher classes, seems destined to practically disappear in the course of two or three generations. Most of Shakespeare's plays have been translated into Finnish, and the standard works of England, France, Germany, and Russia have long since been rendered into that language. At Helsingfors there is a Finnish theatre, in addition to a Swedish and a Russian theatre, with very good native actors. There are a great many Swedish and Finnish newspapers, and scientific or literary journals, and the publications of the various learned bodies are most valuable; among others, those of the Society of Finnish Literature (founded 1831), which has fostered the editing by Lönnrot, Borenius, Krohn, and other scholars, of precious collections of epical songs, ballads, 'songs-of tears' or metrical laments for the dead, folk tales, magical formulas, proverbs, riddles, and beast-fables. Porthan and Koskinen are the principal historians of the grand duchy; Runeberg is undoubtedly the greatest poet and dramatist that F. has produced, and Professors Krohn and Donner have made themselves most eminent for their works on Finnish. Professor Donner has published in German a Comparative Dictionary of the Finno-Ugric Languages (Helsingfors and Leipzig, 3 vols. 1874–88); and there are several Swedish-Finnish dictionaries, besides Lönnrot's.

See the works of Castrén, Elmgrén, and Weske; on the Kalevala, the works of Krohn, his letter quoted by Max Müller in the Athenæum, 1888, October, p. 529, his posthumous Kalevalan Toisinnot (Vairants of the Kalevala (1888), and the Kalevala-studien, trans. by Viktor Hackmann, in Veckenstedt's Zeitsch. für Volkskunde for 1889. Kaarle Krohn published at Helsingfors in 1886 a rich collection of beast-fables, etc. (Suomalaisia Kansansatuja I. Eläinsatuja).

FLANDERS, *flăn′-der*: (Flemish Vlaenderen): the country of the Flemings, a territory lying adjacent to the North Sea, between the Scheldt and the Somme, which embraced the present Belgian provinces of east and west F., the southern portion of Zealand in Holland, and the greater part of ancient Artois in France. This region was originally inhabited by Belgic tribes, on whose subjection by one of Cæsar's lieutenants their territory was incorporated in Roman Gaul. Under the supremacy of Rome they attained to a certain degree of civilization, being renowned for their agriculture, their industry, and their commerce. The region was afterward overrun by the Franks on their way to Gaul, many of them settling there permanently. By the Treaty of Verdun (843) F. was assigned to Neustria. The real nucleus of F. as a political state was the patrimony of a noble family whose possessions were grouped around Bruges and Sluys. In 862 the king of France, as suzerain, changed the title of the head of the family from forester or ranger to count. The first recipient of the honor was Baldwin I., Ironarm (862-77), who was likewise invested with the maritime region of north-east France, on condition that he defended it against the Normans. His descendant, Baldwin IV. (989-1036), having seized upon the emperor's town of Valenciennes in 1006, and proving himself able to keep what he had taken, was allowed to retain it (1007) as a feudatory of the empire. At the same time the emperor invested him with Ghent and the Zealand islands (Walcheren, Beverland, etc.). Thus the count of Flanders held of the emperor as well as of the king of France. Under this count's son and successor, Baldwin V. (1036-67), the county of Alost (Aalst), Tournai, and Hainault were added to the principality. On his death the Netherlands portion of F. was erected into an appanage for his younger son, Robert the Frisian, who on the death of his elder brother Baldwin VI. (1067-70), also wrested F. from Baldwin's widow Richilde, leaving to her and her son Hainault only. From this time down to the end of the 12th century the Flemish territories remained thus divided. The counts of F. of the 10th and 11th centuries were active in promoting the well-being of their people: they built churches and monasteries, and encouraged the industries of the towns, whereby F. rose to be the chief centre of woolen weaving and fulling in Europe. At this period Ghent, Arras (the capital of the county), Courtrai, Rousselaere, Valenciennes, Cassel, Tournai, Lille, St Omer, Ypres, and Bruges were prosperous cities, the centres of the intelligence and public spirit of the country. Robert II. (1093-1111), son of Robert the Frisian, distinguished himself in the first crusade. His son, Baldwin VII. (1111-19), rigorously suppressed the private feuds of his nobles, and administered justice with Draconian severity. As he left no heir, the county was held by a succession of alien princes, as Charles of Denmark (1119-27); William, son of Robert of Normandy, till 1128; Thierry (Diedrich) of Alsace (1128-68), who took part in more than one crusade; and Thierry's son Philip (1168-91), who, besides championing the Christian faith against the Saracens, did much to foster industry and trade at home.

The accession of these foreign princes was turned to account by the Flemish cities, which extorted from them important charters of liberty and self-government. On Philip's death, Baldwin of Hainault reunited the two Flemish counties under one sceptre. But he had a rival for F. proper in Philip of France, who, having married Baldwin's own daughter, the niece of Philip of F., claimed this district as her dowry; and Baldwin was constrained to buy off his more powerful antagonist by the cession of the county of Artois (a large part of southern F.) and the towns of St Omer, Hesdin, and some others. From this time forth Ghent superseded Arras as the capital. The next prince of F. was Baldwin IX. (1194-1206), son of Baldwin of Hainault, who, after winning back from France most of southern F. (though not Artois) took the crusader's cross and became the founder of the Latin empire of Constantinople. Baldwin was followed successively by his two daughters, Johanna (1206-44) and Margaret (1244-78), and by Margaret's son, Guy of Dampierre (1278-1305), who spent a large part of his life as a prisoner in France. Under these rulers the king of France first began to exercise a determining influence upon the government of F. In 1256 the Zealand islands were given to the count of Holland and to Holland they have ever since belonged. The next century presents a series of disputed successions, mostly fomented by the kings of France who made strenuous efforts to unite F. to the French crown. The country was in fact divided between two streams of preponderating influence: on the one hand the nobles, headed by the counts, were enamored of France, and French society, and French institutions (Leliaerts); and on the other the burghers of the towns (Claeuwaerts) clung tenaciously to their national independence and municipal freedom. It was the latter party that constituted the backbone and strength of the country. From the middle of the 12th century the cities growing more independent and more turbulent with the increase of wealth, began to play an increasingly important part in the politics of F., warring one against another, and even waging civil strife within their own walls, taking up arms against their counts, and by their factions either consolidating or marring the fortunes of the rulers of the country. It was especially under Johanna and Margaret that the burghers of such cities as Bruges, Ypres, Ghent, and Lille made rapid progress in commercial prosperity and in the establishment of democratic principles of local government. Each of these cities possessed nearly 40,000 looms for weaving cloth; while Damme was a thriving seaport, doing a large shipping trade in wool, corn, cattle, wine, beer, etc. The struggle of the cities, represented chiefly by Bruges, Ghent, and Ypres, against the counts and other rulers, lasted more or less down to the Treaty of Utrecht (1713).

Philip IV. of France, having for some years steadily fanned the dissension in F., at length got Count Guy into his hands and took possession of his country (1300), which he governed by means of a regent, Châtillon. This man's oppressive rule, however, provoked a general revolt of the Flemings, who in the battle of the Golden Spurs, fought near Courtrai 1302, July 11, almost destroyed the army sent against them by the king of France. The contest continued until 1320, during all which time the Flemings successfully repelled the attempts of Philip to invade their country, and at last wholly shook off the claims of France. Under Louis, who became count of F. in 1322, and who neglected his country to spend most of his time at the court of France, the cities frequently broke out into open revolt; Bruges even held Louis a prisoner for several months, nor were the rebels quelled except with the aid of a large French army (1328). In 1336 Jacob van Artevelde (q.v.), who had acquired supreme influence and power in Ghent, induced the chief cities, in defiance of their count, to make an alliance with Edward III. of England to help him in his quarrel with France. From this time down to 1345, when he was slain by a rival in Ghent, Van Artevelde was the real ruler of F., though he found it an impossible task wholly to restrain the violence and disorder in the restless cities. Under Louis II., who succeeded his father, Louis I., in 1346, it was Ghent and Ypres that at first refused to submit to his rule. Then, in 1379, the keen rivalry of Ghent and Bruges came to a head in a civil war, which soon swelled into a general uprising of the entire country, led by the Ghent faction of the White Caps, against the count. The people of Ghent held out stubbornly under Philip van Artevelde who, however, was slain in battle against the French, 1382, November 27, at Roosebeke. Two years later Count Philip died leaving an only daughter, married to Philip of Burgundy (q.v.), with which duchy the history of F. became thenceforward intimately associated, until in 1477 by the marriage of Mary of Burgundy to Maximilian of Austria, both states passed to the empire, F. becoming part of Austrian Netherlands. Against this arrangement France vainly protested, and in 1526 she was compelled finally to renounce her claims as suzerain. With the accession of Philip II. to the throne of Spain the history of F. becomes identical with that of the Spanish Netherlands (see HOLLAND). By the Treaty of Westphalia Dutch F. was transferred to the United Netherlands, while by the treaties of the Pyrenees (1659), Nimeguen (1678), and Utrecht (1713) Louis XIV. succeeded in adding to France Artois and a large part of French F. By this last treaty and by that of Rastatt (1714) the rest of F. was assigned to Austria, and became known as the Austrian Netherlands. On the formation of the new kingdom of Belgium in 1831 the provinces of east and west F. were incorporated with it.

See Oudegherst, Chroniques et Annales de Flandre (1571); Warnkönig, Flandrische Staatsgeschichte (Tübingen, 1835-39); Conscience, Geschiedenis van Belgie (1845); and the more recent works of Kervyn de Lettenhove. For the Belgian provinces of east and west F., see BELGIUM; for the Flemish language see HOLLAND; and for the Flemish School of Painting, see PAINTING.

FRANCE, *frăns*, the most westerly portion of Europe, occupies a most advantageous position between the Atlantic Ocean and the Mediterranean Sea. The civilization developed on the coasts of the Mediterranean eventually found an easy passage toward the Atlantic and the North Sea by the broad valley of the Rhone and Saone, which communicates with the drainage areas of the Seine, the Loire, and the Garonne. The territory now occupied by F. thus became the ground upon which Roman civilization met and melted with the civilization of the Celts and Teutons; and it gave birth to a race which assimilated a variety of ethnographical elements—Gaulish, Italian, Spanish, German, and Flemish—and developed into a powerful nationality, the French.

In its present limits, diminished in 1871 by the loss of Alsace and part of Lorraine (5,590 sq.m., 1,600,000 inhabitants), F. covers an area of 204,177 sq. m., i.e., one-nineteenth part of Europe, and has a population of 38,218,903 (one-eighth of the population of Europe). It is bounded on the n. by the English Channel and the Strait of Dover, which separate it from England; on the n.e. by Belgium and the grand duchy of Luxemburg, on the e. by Lorraine, Alsace, Switzerland, and Italy; on the s. by the Mediterranean Sea and Spain, from which it is separated by the Pyrenees; and on the w. by the Atlantic Ocean. Its utmost extremities are comprised between 51° 5′ and 42° 20′ n. lat., and the longitudes of 4° 42′ w. and 7° 39′ e. In shape it is a compact hexagonal mass, symmetrically distributed on both sides of the meridian of Paris, its greatest dimensions being 606 miles from n. to s., 556 miles from w. to e., and 675 miles from n.w. to s.e.

The areas of the different administrative subdivisions of F., and their populations, as well as the former divisions into provinces, are given in the following table:

Old Provinces.	Departments.	Area in Eng. sq. miles.	Population in 1886.
ÎLE DE FRANCE	1. **Seine**	184	2,961,089
	2. **Seine-et-Oise**	2,164	618,089
	3. Seine-et-Marne	2,215	355,089
	4. **Oise**	2,261	403,146
	5. **Aisne**	2,839	555,925
CHAMPAGNE	6. Ardennes	2,020	332,759
	7. **Marne**	3,159	429,494
	8. Marne (Haute)	2,402	247,781
	9. **Aube**	2,317	257,374
LORRAINE	10. Meuse	2,405	291,971
	11. Meurthe-et-Moselle	2,025	431,693
	12. **Vosges**	2,266	413,707
FLANDERS (Fr.)	13. Nord	2,193	1,670,184
ARTOIS	14. Pas-de-Calais	2,551	853,526
PICARDY	15. Somme	2,379	548,982
NORMANDY	16. Seine-Inférieure	2,330	833,386
	17. **Eure**	2,300	358,829
	18. **Calvados**	2,132	437,267
	19. **Manche**	2,289	520,865
	20. **Orne**	2,354	367,248
BRITTANY	21. Finistère	2,595	707,820
	22. Morbihan	2,625	535,256
	23. Côtes-du-Nord	2,659	628,256
	24. Ille-et-Vilaine	2,597	621,384
	25. Loire-Inférieure	2,654	643,884
POITOU	26. Vendée	2,588	434,808
	27. Sèvres (Deux)	2,317	353,766
	28. Vienne	2,691	342,785
ANJOU	29. Maine-et-Loire	2,749	527,680
MAINE	30. **Mayenne**	1,996	340,063
	31. Sarthe	2,396	436,111
ANGOUMOIS, AUNIS and SAINTONGE	32. Charente	2,294	366,408
	33. Charente-Inférieure	2,635	462,803
TOURAINE	34. Indre-et-Loire	2,361	340,921
ORLÉANAIS	35. Loir-et-Cher	2,452	279,214
	36. Eure-et-Loir	2,268	283,710
	37. Loiret	2,614	374,875

Old Provinces.	Departments.	Area in Eng. sq. miles.	Population in 1886.
NIVERNAIS	38. Nièvre	2,632	347,645
BOURBONNAIS	39. Allier	2,822	424,582
MARCHE	40. Creuse	2,150	284,942
BERRI	41. Cher	2,780	355,349
	42. Indre	2,624	296,147
LIMOUSIN	43. Vienne (Haute)	2,130	363,182
	44. Corrèze	2,265	326,494
AUVERGNE	45. Cantal	2,217	241,742
	46. Puy-de-Dôme	3,070	570,964
LYONNAIS	47. Loire	1,838	603,384
	48. Rhône	1,077	772,912
BURGUNDY	49. Ain	2,239	364,408
	50. Saône-et-Loire	3,302	625,885
	51. Côte-d'Or	3,383	381,574
	52. Yonne	2,868	355,364
FRANCHE COMTÉ	53. Saône (Haute)	2,062	290,954
	54. Jura	1,928	281,292
	55. Doubs	2,018	310,963
ALSACE (part of)	56. Rhin (Haut)	235	79,758
DAUPHINÉ	57. Isère	3,201	581,680
	58. Drôme	2,518	314,615
	59. Alpes (Hautes)	2,158	122,924
LANGUEDOC	60. Ardèche	2,136	375,472
	61. Loire (Haute)	1,916	320,063
	62. Lozère	1,996	141,264
	63. Gard	2,253	417,099
	64. Hérault	2,393	439,044
	65. Tarn	2,217	358,757
	66. Garonne (Haute)	2,429	481,169
	67. Aude	2,438	332,080
GUIENNE	68. Aveyron	3,376	415,826
	69. Lot	2,012	271,514
	70. Dordogne	3,546	492,205
	71. Tarn et Garonne	1,436	214,046
	72. Lot et Garonne	2,067	307,437
	73. Gironde	3,761	775,845
GASCONY	74. Landes	3,599	302,266
	75. Gers	2,425	274,391
	76. Pyrénées (Hautes)	1,749	234,825
BEARN and NAVARRE	77. Pyrénées (Basses)	2,943	432,999
FOIX	78. Ariège	1,890	237,619
ROUSSILLON	79. Pyrénées (Orientales)	1,592	211,187
AVIGNON, VENAISSIN and ORANGE	80. Vaucluse	1,370	241,787
PROVENCE	81. Rhône (Bouches du)	1,971	604,857
	82. Alpes (Basses)	2,685	129,494
	83. Var	2,349	283,689
CORSICA	84. Corse	3,377	278,501
SAVOY	85. Savoie	2,224	267,428
	86. Savoie (Haute)	1,667	275,018
NICE	87. Alpes Maritimes	1,482	238,057
	Total	204,092	38,218,903

Coasts, Seaports, and Islands.—The coasts of F. possess great advantages for maritime intercourse with the world. The eastern part of the Mediterranean coast, owing to its crescent-shaped indentations, has several excellent harbors which combine the advantage of being situated at or close to the terminus of the great commercial route connecting north-west Europe with the Mediterranean (Golfe de St. Tropez, Hyères roads, Toulon, Marseilles); on the other hand, the western portion of the same coast, which describes a broad curve in the Gulf of the Lion, is flat and difficult of access, as are also the shores of the Bay of Biscay on the Atlantic. The deep estuary of the Garonne has a good port in Bordeaux; for Nantes at the head of the estuary of the Loire, owing to the shallowness of its entrance, a deeper port has been found in St Nazaire; while the port of La Palisse, three miles west of La Rochelle, is steadily rising in importance. Farther north the rocky coasts of Brittany are indented with numerous narrow gulfs and dotted with small islands; and Brest, situated on one of the gulfs, is among the best ports in Europe. On the northern coast, facing toward England, F. has but few natural harbors. Cherbourg, at the extremity of the Cotentin peninsula, has been made a naval port at a heavy outlay. Le Havre, at the mouth of the Seine, also is an artificial port, whose maritime intercourse with distant lands is growing rapidly, as is likewise that of Dunkirk. Boulogne and Calais derive their importance from their close and extensive intercourse with England.

Except the island of Corsica, which, geographically and ethnologically, belongs rather to Italy, F. has no islands of importance. The islands off the Mediterranean coast, as well as those off Brittany, are practically but small detached fragments of the mainland; while the Channel Islands (q.v.), situated between Brittany and the Cotentin peninsula, belong to Great Britain. The aggregate area of the French islands is 3,686 sq. m.

I. COLONIES.	*Area in sq. miles.*	*Pop. 1886.*
Algeria	257,450	3,910,399
In Asia—		
French India	208	277,266
Cochin China	23,000	1,795,000
French Tonkin	34,700	c. 12,000,000
In Africa—		
Senegambia and Dependencies	138,350	1,850,000
Gaboon and Gold Coast	267,900	186,150
Congo Region		500,000
Réunion	970	175,271
Ste Marie	318	7,444
Nossi Bé and Mayotte		20,481
Obock	2,300	22,700
In America—		
Guiana, or Cayenne	46,850	26,905
Guadeloupe, etc.	720	182,619
Martinique	380	175,755
St Pierre and Miquelon	90	5,929
In Oceania—		
New Caledonia, etc.	7,700	62,752
Marquesas Islands	480	5,250
Tahiti and Moorea	455	11,003
Tubuai and Raivavai	80	717
Tuamotu and Gambier Islands	390	5,946
Total of Colonies (with Algeria)	782,336	21,221,257
II. PROTECTED COUNTRIES.		
Tunis	45,000	1,500,000
Madagascar	228,500	3,500,000
Annam	106,250	c. 5,000,000
Cambodia	82,390	1,500,000
Comoro Isles	615	53,000
Total of Protected Countries	412,755	11,553,000
Total, Colonies and Protected Countries	1,195,091	32,774,257

Colonies.—The possessions of F. outside of Europe, both colonies and protected countries, cover an aggregate of 1,195,091 sq. m., and have a population of more than 32,000,000 inhabitants. Of them, Algeria (q.v.) is rapidly becoming a part of F. proper, and is considered as such for nearly all administrative purposes. The large territory of Tunis has recently been taken under French protection. Moreover, by a treaty signed in 1885 Madagascar was virtually placed under the protection of F.; but the home government has repeatedly since acted as though in no way fettered by such protection, and it is doubtful whether F. would go to the expense of enforcing her claims; for to conquer so vast an island, which is entirely without roads, would require a very large army and the expenditure of many millions. F. also claims the protectorate of a considerable area in west A., along the Ogoway and its tributaries, and in 1884 reoccupied portions of the Gold Coast. In Asia, Tonkin was annexed to F. in 1884, and Annam placed under its protectorate. The whole of the F. possessions in Asia are now united into the governorship of Indo-China. In 1887 the French protectorate was extended in the Pacific Ocean to the Wallis Islands, west of Samoa (the *isles sous le vent*), and to Raiatea, in the neighborhood of Tahiti. The details of the French colonies are given in the foregoing table, although some of the figures are necessarily only estimates.

Geographical Description.—A general idea of the leading geographical features of F. can be given in a few words. Its territory embodies highlands in the south and south-east only; in the south it comprises the northern slopes of the Pyrenees, and toward the south-east frontier part of the Alps. The remainder of the territory is nearly equally divided between extensive lowlands in the north-west and a great plateau, which covers the south-eastern half, but is separated from the Alps by the broad and deep valley of the lower Rhone. The climate of F., its vegetation, the distribution of its population, and its very history have been determined by these leading features of its orography.

The Plateau.—The extensive mass of elevated plains which rises between the lowlands of the Mediterranean coast and those sloping toward the Atlantic reaches a height of from 3,000 to 4,000 feet in its higher central parts only; several chains, partly of volcanic origin, piled over its surface, attain from 5,000 to 6,000 feet; while the river valleys are dug so deeply into the plateau that it often assumes a hilly aspect. The whole slopes gently toward the north-west, gradually melting into the lowlands of the Garonne, the Loire, and the Seine, which would be submerged almost entirely if the level of the ocean rose 1,000, or even 600 feet. In that case the coast line of the Atlantic would run from the Bay of Biscay toward Belgium, with some detached islands to the north of this line, and to the south of it two broad and deep gulfs, which would correspond to what are now the upper drainage areas of the Garonne and the Loire; while the Mediterranean Sea would send into the mainland a long and wide gulf up the valley of the Rhone, with a narrow elongated lake penetrating farther north, and corresponding to what is now the valley of the Saône.

It is easy to grasp at once how such a configuration facilitated the intercourse between the Mediterranean Sea and the Atlantic Ocean. The shores of the Gulf of the Lion, which at an early period of history were dotted with Greek and Roman cities, are separated from the Garonne by only a low watershed, the Seuil de Naurouse (636 feet above the sea), which allows easy communication with the Bay of Biscay. Farther north the depression of the Saône, which is a natural continuation of the valley of the Rhone, is connected with the Loire by a valley of so gentle a gradient that it has been utilized for a canal (the Canal du Centre), the highest part of the watershed being but 1,000 feet above the sea; and, finally, the same depression of the Saône freely communicates across the lower parts of the plateau with the tributaries of the Seine. The civilization which developed on the littoral of the Mediterranean thus found three natural passages leading to the Atlantic Ocean and the coasts of the North Sea, without having to contend with any of the natural obstacles opposed elsewhere by the Alps.

While sloping gently toward the north-west, the plateau has a short steep slope toward the valley of the Rhone and the Mediterranean coast, and the southern part of that slope is fringed by the Cévennes Mountains, which raise their granitic and crystalline summits to more than 5,000 feet above the sea (chief summit, Mont Mézenc, 5,754 feet). This lofty chain separates two entirely different worlds: the fertile, sunny, and warm plains of the Lower Rhone and Languedoc from the plains of the Rouergue, dreary, cold, and 3,000 feet high, upon which only rye is grown, and flocks of sheep find rich grazing ground. Farther north the mountains on the edge of the plateau become much lower. The Monts du Vivarais reach their greatest height in Mont Pilat (4,705 feet), while the Monts du Beaujolais and du Charolais as a rule do not exceed 3,300 feet. The sunny slopes of the Monts du Beaujolais, turned toward the Saône, are covered with rich vineyards, while the plateau to the west of them is dotted with ironworks, coal mines, and manufacturing cities. Still farther north the plateau, which is separated by only the narrow valleys of the Saône and the Doubs from the hills of the Jura, is fringed by the low dome-shaped hills of the Côte d'Or (2,000 feet), which connect it with the Vosges. The upper tributaries of the Seine have their source in the same wet district as those of the Saône, and both rivers are connected by the Burgundy Canal. Finally, the Vosges, although making a steep descent to the valley of the Rhine, rise but gently over the plateau, their highest points being not more than from 3,300 to 4,000 feet above the sea (the Ballon de Soultz, 4,579 feet, is now on German territory). Thick forests still clothe their slopes, which are covered with morainic deposits of the glacial period, and their numberless streams are dotted with sawmills and factories.

The plateau reaches its greatest height of from 3,300 to 4,000 feet in central F. in the Massif Central of Auvergne, which covers nearly one-seventh of F.'s total area, and is a region of granites, gneisses, and crystalline slates fringed by Jurassic deposits, and dotted on its surface with extinct volcanic cones surrounded by wide sheets of lava. The Massif du Cantal, connected by the Margeride chain with the Cévennes, rises nearly 2,000 feet above the level of the plateau, reaching 6,093 feet above the sea in its highest volcanic cone, the Plomb du Cantal. The Monts Dore, 40 miles north, have the same character; their chief summit, the Puy de Sancy (6,188 feet), surrounded by several lower volcanic cones, being the highest mountain of central F. Finally, the Monts Dôme, a few miles farther north, consist of some fifty volcanic cones, the highest of which is Puy-de-Dôme (4,806 feet). The Limousin and the Marche, to the west of the above, are granite plateaus hardly reaching 3,300 feet above the sea; while the Causses of the Rouergue, in the south, are built up of Jurassic limestones deeply cut into by rivers which flow in beautiful cañons. Toward the north-east the Massif Central is continued by the Morvan, and, farther north-east, by the much lower plateaus of western Lorraine and Champagne Pouilleuse, which slope with a very easy gradient toward the plains watered by the Seine. As to the Ardennes (between the Meuse and the Moselle), which have played so important a part in military history as a bulwark against foreign invasions, they are a plateau from 1,600 to 2,400 feet high, still covered with wide forests, and intersected by marshy depressions, ravines, and fertile valleys. The heights of the Massif Central, suffering as they do from a protracted winter, have but a poor, rapidly diminishing population. The forests which once covered them have mostly been destroyed, save in the picturesque Margeride chain, and only flocks of sheep graze on their meagre pasture grounds. The Causses receive rain in abundance, but are exceedingly dry, the water rapidly disappearing in the numberless crevices of the soil. The inhabitants are thus compelled to gather rain water in cisterns for themselves and their cattle. A few acres, cultivated here and there, bear poor crops of barley, oats, and potatoes; but hundreds of thousands of sheep are kept for the special purpose of making cheese. As a rule the plateau is thinly peopled save in the mining and industrial regions. Farther north-east, where it is much lower, and where the broad valleys between the wooded hills have a more fertile soil, a denser population gathers in the villages and the towns, and finds the means of existence in agriculture combined with a variety of small industries.

The Jura.—A narrow passage near Belfort (la Trouée de Belfort), utilized by both the canal which connects the Saône with the Rhine and the railway which leads from Paris to Switzerland, separates the Vosges from the limestone plateaus of the Jura, part of which belongs to F. The depressions and high valleys between the forest-clad hills shelter a large and laborious population, which is supported by a combination of agriculture and cattle-breeding with a variety of petty trades.

The Alps.—Since the annexation of Savoy in 1860 the Alps of Savoy as well as a portion of the main chain including the northern slopes of the chain of Mont Blanc (15,780 feet) belong to F. The pass of Little St Bernard ([illegible]) separates the latter from the Graian Alps, which have the two passes of Mont Cenis (6,883) and Mont Genèvre ([illegible]) leading from France to Italy, and are continued to the south-east by the Oisans group, where immense glaciers rivalling those of Switzerland gather around Mont Pelvoux ([illegible]). The valley of the Durance separates the Graian Alps from another short parallel chain of the Cotian Alps (Monte Viso, 12,608), while the still lower Maritime Alps descend in terraces to the Mediterranean coast. The cold and snowy slopes of the Alps are but thinly peopled, especially in the dry limestone spurs of the Graian and Cottian Alps. A number of agricultural villages, however, thrive in the lower spurs of the Savoy Alps, and the city of Grenoble is an industrial centre of importance; while Chamouni at the foot of Mont Blanc is one of the chief centres for tourists.

The Pyrenees.—This wild complex of lofty chains extends for a length of 260 miles between the Atlantic Ocean and the Mediterranean Sea. In the east it is built up of three parallel chains running in a north-eastern direction: the Monts Albères, the Sierra del Cadi, which enters F. from Spain and has on French territory the lofty peak Mont Canigou (9,137 feet), and the chain of south-east Andorra, continued in F. by the peaks Puy-de-Carlitte (10,[illegible]) and Madres. Farther west the Pyrenees proper consist of at least two parallel chains of the wildest aspect, both running west-north-west and disposed in *échelons*. Here we find the highest peaks of the Pyrenees: Nethou (11,168) in the Maladetta chain, the Mont Perdu, and several others rising to heights over 10,000 feet. Wide *cirques*, which formerly were filled with *névés* and gave origin to vast glaciers, and arid mountains intersected by narrow and dark valleys are characteristic of that part of the Pyrenees; but the Pyrenean glaciers of our own time are much inferior to those of the Alps and none descend lower than 7,250 feet. The Pass of Roncevaux (Roncesvalles, 40 miles from the Atlantic coast), which has been the route of so many migrations, separates the Pyrenees proper from a series of much lower spurs of the Spanish coast-ridges, which, like the Mediterranean coast ridges, also have a north-eastern direction. The passes across the Pyrenees proper are very few, very high, and difficult. The Pass of Roncevaux in the west and those of La Perche and Pertus in the east (16 miles only from the Mediterranean) lead through longitudinal valleys of the chains running north-east which inclose the Pyrenees at both ends. Of the passes through the Pyrenees proper none is lower than 6,700 feet. Therefore the railways connecting F. with Spain have been compelled to follow the very coasts of the Atlantic Ocean and the Mediterranean Sea, while the other lines stop short on both slopes of the Pyrenees proper without yet venturing to cross them. A plateau, from 1,600 to 2,000 feet high (Lannemezan), spreads out at the northern foot of the Pyrenees. Owing to its limestone soil it is exceedingly dry, and its grazing lands have had to be irrigated with water derived from the Neste river.

Plains and Rivers.—The whole of north-western F., with the exception of a few hilly tracts in La Vendée, Brittany, and Normandy, is occupied by wide plains which constitute the real wealth of her territory. Taking them in order from the south-west, we have first the Landes, a wide triangular space between the Bay of Biscay, the Adour, and the Leire, covered with Pliocene sands, which would be an immense marshy fever den, bordered by shifting sands on the sea coast, if it were not intersected by canals and the sands were not fixed by plantations of trees. The thick growths of bushes which cover the plain are utilized as grazing grounds for flocks of sheep, the shepherds formerly being compelled to mount upon stilts when watching their flocks. Some of the ponds, formerly bays, now separated by sand dunes from the ocean, are valuable fishing grounds. The Adour ([illegible] miles long), which fringes the Landes and receives a number of tributaries (*gaves*) from the chalky plateau of Lannemezan, has but few important cities on its course, Bayonne being the chief of them. The Garonne (346 miles), which rises in Spain, and receives the Tarn and the Aveyron from the very depths of the Massif Central, is a most important channel for navigation. But the torrential rains which pour over its drainage area of [illegible] sq. m. do not always find an easy outlet in its channel, and floods are not infrequent. The Dordogne (305 miles), which rises in the Mont Dore, has most of its course dug into the plateau. Beautiful vineyards cover the slopes of its valley, while lower down the raising of iron ore and the quarrying of grinding stones, as also the industry of truffle-hunting in Périgord, become a source of prosperity; the old city of Périgueux is an important centre of manufactures. The Dordogne and the Garonne join to form the Gironde, which is a true marine estuary, with the left bank bordered by the low hills of Médoc, covered with vineyards yielding every year not less than

8,200,000 gallons of the finest wines. The great port of **Bordeaux**, on the Garonne, is some 15 miles above the head of the estuary of the Gironde.

The monotony of the rich plains between the Gironde and the Loire, which include the old province of Poitou, is broken by the dreary hills of the Gatine, a link between the chains of Margeride and Limousin and the hilly tracts of Brittany. The southern parts of the plains on the right bank of the Gironde—the Saintonge (watered by the Charente)—are among the richest districts of F. Farther north the Bocage closely reminds one of England by its meadows inclosed within rows of trees, while Le Marais, on the coasts of the Gulf of Poitou, which has the two islands of Ré and Oléron, protecting the entrance to Rochefort, resembles the *polders* of the Netherlands.

Next we have the immense plains watered by the Loire, which becomes a great river after receiving the Allier, and has a drainage area covering one-fifth of the area of F. (46,750 sq. m.; 7,000,000 inhabitants), and a total length of 670 miles. This chief river of F. rises on the plateau not far to the west of the middle of the Rhone's lower course, and describes a wide curve toward the north, approaching within 70 miles of Paris at the head of the bend at Orleans. It enters the Atlantic Ocean by a wide estuary, pouring out of its broad channel into the sea no less than from 23,000 to 42,500 cubic feet of water every second. The regions along its middle course are the real heart of F. As it issues from the valleys of the plateau it waters the Sologne, the chief rye-producing region of F.; the Berri, to the south of the Sologne, a chalky plain from 350 to 700 feet high, interspersed with numerous ponds and covered with rich pasture grounds; and Beauce, situated between Paris, Orleans, and Tours, quite flat and covered with cornfields and meadows. The Gatinais, to the east of Beauce, spreads between the two great forests of middle F.—the Forêt d'Orléans (which covers 9,500 acres) and the Forêt de Fontainebleau (41,700). Farther down its course the Loire enters the lowlands of Touraine and Anjou, which are literally covered with cornfields, gardens, and vineyards, while the cities of Tours, Saumur, and Angers are centres of manufacturing industry. The beautiful meadows, cornfields, and gardens continue as far as Nantes, where the Loire enters its estuary; and the port of Nantes, although rather shallow for modern sea-going ships, grows in importance as a centre for fisheries and various manufactures.

The peninsula of Brittany is formed by two ridges of granitic hills from 1,000 to 1,200 feet high, separated by a region of crystalline slates. Its scenery and moist climate, as well as those of the Cotentin peninsula, again remind one of England, with the meadows and fields fringed by trees, and the ivy-covered houses. Cattle breeding on a large scale, poultry farming, fruit gardening, agriculture, and fishing are the chief riches of Brittany. The plateaus of Normandy (Le Perche), which rise from 1,000 to 1,300 feet above the surrounding plains, are also covered with beautiful meadows, cornfields, and forests, and French agriculture reaches there its highest development. The Seine separates them from the cretaceous chalky plains of the Caux, which raise their cliffs over the Channel and are deeply cleft by valleys of a remarkable fertility.

The Seine (485 miles), which rises in the hills of Morvan, and drains with its tributaries (chiefly on the right bank) an area of 30,400 sq. m., certainly is far behind the Loire both as to the volume of water flowing in its channel and as a means of communication. Nevertheless, the wide Tertiary basin which it and its tributaries water has from remote antiquity been the dominant portion of historical F. Numerous large cities, like Auxerre, Sens, Troyes, Chalons, Reims, Laon, Rennes, which all took such an important part in the making up of F., and especially Paris, which acquired its importance owing to its most advantageous position at the intersection of all the chief routes crossing F., are situated either on the Seine or on its right bank tributaries which water the fertile plains of Champagne. Le Havre is the great port at the mouth of the river.

Artois and French Flanders are low tracts of land to some extent conquered from the sea. They have a flourishing agriculture, vast coal beds, and a great industry in their chief cities (Amiens, Lille, Roubaix); their population is rapidly increasing. At the other extremity of F. the lowlands of the south occupy the sea-coast and the broad valley of the Rhone, along which they extend between the Alps and the plateau, as far north as Lyons, to be continued farther north by the valley of the Saône.

The Rhone (507 miles) has its source in the glaciers of the St. Gothard group, and of its 38,180 sq. m. drainage area, peopled by 4,500,000 inhabitants, nearly one-tenth belongs to Switzerland. Below the Lake of Geneva its course is still in the mountains, and it is not far from its junction with the Saône at Lyons that it enters the plain of Dauphiné, dotted with numerous industrial cities of which Lyons is the centre. After receiving the Saone the Rhone suddenly changes its westerly course and flows rapidly due south in a rich valley, the slopes of which are covered with vineyards. Below Avignon the valley suddenly assumes a decidedly southern character, not unlike the driest parts of Sicily and Greece. The Isère, which rises in the Graian Alps, the Durance, which flows from the Cottian Alps, and a number of smaller streams rushing from the Cévennes join the Rhone, which bifurcates at Arles, leaving the marshy delta of the Camargue between its two main branches, and the gravelly plain of the Crau to the left. The tides being insignificant in the Gulf of the Lion, the mouth of the Rhone is rapidly obstructed by mud and sand, and a canal (St. Louis) had to be dug to permit ships to enter the river at Port St. Louis.

The littoral of Provence has no great fertility, and, except the stony or marshy plains in the neighborhood of the Rhone, there is but a narrow strip of land left between the mountains and the sea-coast, which is utilized for vineyards and fruit gardens; but the remarkably well sheltered harbors of Marseilles (q.v.), Toulon, Hyères, and St Tropez give birth to a considerable maritime commerce; and Marseilles is now the chief port of F. for intercourse with the South and East. The eastern part of the coast, acquired from Italy in 1860, is well known for its mild climate and rich vegetation, which render Nice, Villefranche, Cannes, and Mentone the chief resort of the invalids of Europe. As to the western part of the Mediterranean coast—Languedoc—with its cities Montpellier and its seaport Cette, Carcassonne, and Perpignan, its vineyards were formerly the richest wine producing part of F.; but since 1875 they have been devastated by phylloxera, and corn grows now in the plains formerly covered with vines. The coal fields of the region aid the development of a variety of industries. Finally, the Roussillon, which comprises the eastern outspurs of the Pyrenees, partakes of the character of the Iberian peninsula, especially of Catalonia.

Climate.—F. enjoys on the whole a very fine climate; not so continental as that of central Europe, and not so maritime as that of England. Omitting the high hilly tracts of the Alps and Pyrenees, the coldest region of F. is evidently that of the high plateau with its cold winters, though it has hot summer days. The north-eastern part of the plateau (Champagne, Lorraine, the Vosges) also has a continental climate much like that of central Europe. Frosts last there for from seventy to eighty-five days every year, but the amount of snow is seldom considerable in the plains. The Paris basin has a climate transitional between the above and that of the sea-coasts. Frosts occur for an average of fifty-six days yearly, but the average temperature of the winter is not lower than 38° F.; the spring is beautiful, and excessive heat does not last long during the summer. The annual rainfall is but 20 inches, and, though it rains on an average of 154 days in a year, the rains usually are of short duration. The climate of Brittany is very much like that of the south-west of England, while that of the plains on the Bay of Biscay is warm and dry (from 23 to 31 inches of rain per annum in the drainage area of the Garonne), and Pau, on the slopes of the Pyrenees, has the deserved reputation of a sanitary station. The region about Lyons has an intermediate, rather wet climate, with cold winter and not very bright summer; while the climate of Languedoc and Provence assumes to some extent an African character: a temperate winter is succeeded by a burning hot summer, moderated from time to time by the *mistral*, which blows with a terrible force from the Cévennes, purifying the air and throwing back to the sea the moisture which otherwise might result in rain; so that Marseilles has but fifty-five rainy days during the year.

Population, Occupations, National Character.—For origins of the French nation and the elements that compose the French population—Celtic Gauls, Belgæ, Aquitanians, or Iberians, Romans, Franks and other Germanic tribes, and Normans—see the section below on the history of F., and the separate articles, such as BELGÆ, CELTS, FRANKS, etc. For the dominant language of F., see the section on French Language and Literature. For the Provençal language of the south of F., see that head. In the north-west the ancient Celtic Breton tongue still survives (see BRITTANY); and in the south-west the distinct and peculiar Basque language is spoken by the bulk of the people in more than one department (see BASQUES). Flemish is spoken in French Flanders; the Walloons (q. v.) speak their own Romance dialect in the north-east of F.; and German is still spoken in some districts of those parts of Alsace and Lorraine left to F. on the French borders of Alsace, now incorporated with Germany. As to the national character, it is the sum of so many individual, provincial, and political varieties that a general judgment cannot be pronounced too cautiously. So much, however, can be said, that, like its territory, the French people is a natural transition between the inhabitants of southern Europe and those of the north. It combines the impressionability, the vivacity, the rapidity of conception, and the artistic feeling of the men of the south with the persistence, laboriousness, and rationalism of the men of the north. The sociability of the French has become proverbial. Their instability and levity are often, especially in Britain, made accountable for the frequent changes of government in F.; but these assumed characteristics are but a poor attempt at an explanation of facts that have a far deeper historical meaning, and, moreover, stand in sheer contradiction to the practical sense and the inborn talent for organization which are among the most striking features of F.'s economical and social life. The deeply systematic mind of the French strongly seconds a natural power of organization, which appears in the simplest labor combinations of the workmen, as well as in the greatest enterprises in the more abstract domains of literature and science.

According to the census of 1886, May 30, the population of F. (without Algeria) reached 38,218,903 inhabitants, as against 27½ millions at the beginning of the century, 32½ millions in 1831, 37½ millions in 1861, 36,102,921 in 1872, and 37,672,048 in 1881. The decline in population in 1861-72 is largely accounted for by the loss of territory that followed the Franco-German war; the remainder was due partly to losses in the war, and partly to an absolute decrease in the population of more than half of the departments. In 1881-6, also, over one-third of the departments show a falling off. The annual increase throughout F. is notably slower than in the other chief countries of Europe, and its low rate is due not to a higher mortality—the mortality in F. being nearly equal to that of the United Kingdom (23 to 24 per 1,000)—but to the relatively small number of married people, and to the small proportion of children in each family (26 births per 1,000 inhabitants, as against 35 in Great Britain, and nearly 40 in Germany). This low birth-rate does not hold good for all F.; the small yearly increase of the total population is chiefly due to the more numerous births in the north and centre, the highest average (3 per family) being found in Brittany. It is worth noting that one-quarter of the entire increase is contributed by the foreign residents.

There were 1,126,531 foreigners living in F. in 1886, constituting 2.97 per cent. of the population; of these 482,261 were Belgians, 264,568 Italians, 100,114 Germans, 79,550 Spaniards, 78,584 Swiss, 37,149 Dutch, 36,134 English, 12,090 Austrians and Hungarians, 11,980 Russians, 10,253 Americans, 62,951 of other nationalities. In addition to these 103,886 foreigners had become French subjects.

French emigration is but little. Still, the last census has shown no less than 219,982 Frenchmen in Algeria; besides, there are 167,832 in the Argentine Republic and Uruguay (1880-82), 106,971 in the United States (1880); 58,992 in Switzerland; 51,160 in Belgium; and more than 20,000 in Spain. On the whole emigration from F. has been on the increase during the last few years. On the other hand no less than 1,126,531 foreigners (chiefly Belgians, Italians, Germans, Spaniards, and Swiss) were returned in the census of 1886 as living in France.

In 1846 three-fourths of the population lived in the country, and one-fourth only in the cities; but the migration of country people to the cities has gone on in F. as elsewhere on a great scale; and at present out of each hundred inhabitants thirty-six are living in the cities. Migration is especially active into Paris and its neigh borhood, and to the seaports. In 1886 no fewer than 6,000,000 people lived in the forty-seven chief cities having each more than 30,000 inhabitants; and the following eleven cities had populations of more than 100,000: Paris (2,344,550), Lyons (401,930), Marseilles (376,143), Bordeaux (240,582), Lille (188,272), Toulouse (147,617), Nantes (127,482), St Étienne (117,875), Le Hâvre (112,074), Rouen (107,163), Roubaix (100,299).

Nearly one-half of the population still live by agriculture, as seen from the returns of 1886. Agriculture, 17,698,402; industries, 9,289,206; commerce, 4,247,764; sailors, fishermen, railway servants, 1,020,721; public forces, 613,362; professions, 1,805,250; living on income, 2,295,966; without occupation, 728,273; occupation unknown, 231,303: total, 37,930,247. Of the total population no less than 19 million persons represented families living on somebody else's salary or income, and more than 2½ millions are domestic servants; of the professional class one half were public officials; while the grand total of clerks and other salaried persons in trade and commerce (exclusive of domestic servants) amounted to less than 5 million men and women. In agriculture the occupations appeared as follows: Farming proprietors, 2,431,481; farmers and *métayers*, 1,311,089; nursery gardeners, etc., 212,055; foresters, wood-cutters, etc., 91,539: thus giving a total of 4,046,164 'heads of establishments.' These employed 2,869,804 laborers and domestic servants, and their families amounted to 10,782,437 persons.

Land-tenure. The current opinion is that landed property is extremely subdivided in F., but this is true to a certain extent only, and needs some explanation. The official statistics supply merely the number of land assessments (*cotes foncières*), *i.e.*, of persons having to pay the land tax, and this number is a little over 14 millions. But, as it often happens that the same person pays several assessments in the same commune or in different communes, the above figure is much above the real number of landholders. It results from such statistics as are available that on the average the number of owners stands in the ratio of 594 owners of 1,000 assessments, so that the aggregate number of land owners hardly exceeds 8 millions, as seen from the following table:

Size of Properties (Assessments).	Number of Assessments.	Estimated Number of Landholders.	Number of Acres.	Percentage to Aggregate Area.
Very small properties (less than 5 acres)...	10,426,368	6,182,837	12,851,075	10.5
Small properties (5-15 acres) ...	2,174,188	1,288,237	18,640,668	15.3
Medium properties (15-20 acres)	1,351,499	801,440	47,490,166	38.9
Large properties (120-500 acres)	105,070	62,306	23,174,522	19.0
Very large properties (over 500 acres)	17,676	10,482	19,812,498	16.2
Total	14,074,801	8,346,302	121,968,949	100

Besides, out of the more than 10 million assessments of the first category no less than 6½ millions are upon built property, so that the aggregate number of real agricultural land owners does not exceed 4½ millions; of these about 50,000 persons own one third part of the territory, about 500,000 own two fifths of it, while 1,200,000 own only one-seventh part, and nearly 2,500,000 land holders who own less than one-thirtieth part of the territory are compelled to work on somebody else's field. F. is thus the country of middle-sized agricultural landholdings, with a considerable number of agricultural laborers who own nothing but a house and a garden, or not even that, and a not inconsiderable number of larger landlords. It must, however, be remarked that, though the concentration of land in the hands of great land owners is going on in certain parts, especially of central F., the tendency in other parts is toward the increase of such holdings of about 20 acres as can be cultivated by one family.

As to the dwellings of the peasantry, it appears from the fiscal registration made for levying the window-tax that no less than 2 million houses (of 8,933,486 houses all over F.) are provided with one window only, or even have no aperture save the door; 3,709,566 houses have but two windows, or less.

Agriculture. The landholdings are subdivided into no less than 127 million separate small plots, and this subdivision is the source of many drawbacks. Moreover, French agriculture suffers from an exceedingly high taxation. Nevertheless, it can favorably compare with that of Great Britain. Of a territory covering 123 million acres no less than 37 million acres are under cereal crops, [illegible] acres under vineyards, a little over 12 millions under meadows and grazing lands, 21 millions under forests, and less than 17 million acres are unproductive. The average yield of wheat is but from 18 to 20 bushels to the acre (as against 28 in Great Britain), but the area under wheat (17 million acres) is much larger than in England; and the cereals altogether cover no less than 29 per cent. of the territory. The different crops and their average produce (in millions of bushels) are as follows:

	Acres.	*Million Bushels.*
Wheat	16,980,000	290-320
Oats	9,113,000	236
Rye	4,100,000	66
Barley	2,400,000	48
Buckwheat	1,500,000	24
Maize	1,500,000	24
Green crops	7,000,000	..

Beet root for sugar covers about half a million acres. The terrible ravages of the phylloxera have reduced the area under vineyards from 6,382,000 acres in 1875 to 2,868,000 acres in 1885; but there has been some improvement since, and in 1888 the vineyards covered over 4½ million acres, yielding 662,247,000 gallons of wine. The imports of wine amount to about one third of the home crop. The yearly production of cider varies from 210 to 440 million gallons, and that of alcohol (41 million gallons in 1885) is on the increase.

One of the most promising features of French agriculture is the high development of nursery gardening, which achieves most remarkable results in variety and richness of crops. It may suffice to say that, owing to their perfect methods of horticulture, the *maraîchers* round Paris and other large cities succeed in obtaining vegetables and fruit to the value of from £60 to £180 per acre. The planting out of trees and the reclamation of unproductive soil go on in various parts of F. on a large scale; and, though the division of land prevents the farmers from acquiring improved machinery, the peasants' associations, and the practice of renting machines for a few days in a year, supplement that want to some extent.

Cattle-rearing has a tendency to become more and more specialized. Fine breeds of horses are reared in the north and northwest; the south is renowned for its donkeys and mules; cattle-breeding prospers in the wet climate along the Channel, in the Pyrenees, the Limousin, the Jura, and the Vosges, and sheep-rearing all over the higher part of the plateau. Swine-breeding is on the increase, and poultry farming is an important source of wealth in the north and north-west. The exports of cattle, butter, eggs, cheese, and poultry, especially to England, are very considerable: no less than 50 million pounds of butter and 1,000 million eggs being sent every year across the Channel.

Fisheries.—The fisheries are of great importance for F., both the deep-sea fishery (especially about Newfoundland), valued at nearly [illegible] millions sterling every year, and also the coast fisheries, which employ some [illegible] fishermen, and yield a value of nearly 4 millions sterling every year. See FISHERIES.

Mining and Metallurgy.—F. is relatively poor in minerals and metals. It has no gold, no silver, no platinum or mercury; and its produce of copper, zinc, lead, and tin hardly supplies one-twentieth part of its annual consumption. The iron mines are more productive, but they are mostly far away from the coal mines, and the cost of production is consequently increased. In fact, from one-third to one-half of the iron ore used in F. is imported from foreign countries. The 112 foundries and 168 blast furnaces of F. produce every year a little more than 1½ million tons of pig-iron, while 200 ironworks, with about 1,000 furnaces, make an average of 820,000 tons of iron and half a million tons of steel; but this supply falls far short of the demand. The coal mines, which are scattered over the north, the region of the upper Loire, and in Languedoc, are far from satisfying the needs of F., which imports about 28 million tons of coal, as against an average of 21 million tons raised at home.

On the other hand, F. is very rich in all kinds of building stone, gravel, chalk, plaster, etc., and this circumstance has permitted her to build most of her cities of excellent stone, and to lay over the country a network of fine roads. The shales and phosphates, produced on a large scale, supply agriculture with chemical manure. No less than 100,000 men are engaged in quarrying the various kinds of stone. Rock salt is raised to the amount of more than 100,000 tons, and 640,000 tons more of salt are secured from the sea.

Manufactures.—Manufactures have made rapid progress during the 19th century. While 65 steam-engines only were at work in 1820, their number has risen to nearly 55,000, representing more than 3½ million horse-power, and thus adding to the producing powers of the country a force equivalent to that of nearly 60 millions of human beings. All kinds of industries are represented among the nearly 150,000 manufactures of F. The textile industry gives occupation to at least 2,000,000 persons. In silks F. has no longer the monopoly she formerly had, these being now woven all over Europe; but she still occupies the first rank, especially with regard to the finer stuffs and the production of new ones. The cotton factories are on a much smaller scale than those of Great Britain or the United States; but in the number of spindles (4,900,000) they nearly equal those of Germany. The aggregate annual produce of the textile industries (9,237,000 spindles, 106,300 power-looms, and 145,000 hand looms) is valued at about $776,000,000. Then there are also sugar works (423,000 tons), sugar refineries (355,100 tons), chemical industries, potteries, paper mills, and industries connected with furniture, dress, carriages, and all possible articles of luxury. Hundreds of small industries, which occupy two thirds of the French industrial workers, are especially worthy of note, because it is in them that the artistic taste and inventive genius of the nation are especially apparent. Paris is the world's emporium for such small industries.

Communications.—The highways in F. as a rule are kept in an excellent state, and no less than 120,000 miles of *routes nationales*, and twice as many miles of district roads, are the feeding arteries of the network of railway lines, which covered an aggregate length of 32,944 kilometres in 1889. The total receipts were about $221,860,000 in 1889, having been swelled by the great Paris Exposition. The traffic on the French railways is not half so brisk as on those of Great Britain, and the yearly number of passengers is only about one third as large. The navigable rivers and canals, to which a great deal of attention is given in F., have a total length of 6,510 miles, and the aggregate weight of the merchandise transported on these waterways is twenty times the weight of transports by rail.

Commercial Navy.—The French mercantile marine (1,015 steamers ([illegible] tons) and 14,523 sailing vessels ([illegible] tons) in 1889) is behind not only those of Britain, the United States, and Norway, but even of Germany and Italy. In the tonnage of her steamers, however, F. is ahead of Germany by nearly 250,000 tons. Nevertheless, three fourths of the French coasting and foreign trade is carried on under the flags of the republic. No less than 100,000 vessels (30 million tons) enter the French ports, and of these more than one sixth (22,000 ships) are engaged in foreign trade.

Foreign Trade.—F. is an illustration of the fact that a country having a well-developed agriculture may be very wealthy without having a considerable foreign trade. While the aggregate value of exports of home produce and imports for home consumption varies from about $65 to $80 per head of population in the United Kingdom, it barely reaches $40 in F. During the five years 1883–87 the annual average trade was valued at $1,044,000,000 for the imports and $818,800,000 for the exports (of which the imports for home consumption were $858,800,000, and the exports of home produce $650,000,000 ([illegible] and $660,000,000, respectively). The chief import is raw produce ($381,350,400 in 1888), and the chief item of export is manufactured goods ($331,263,400). Raw silk, cotton, and wool are imported both for home use and for re-exportation in the shape of stuffs. Hides are imported to be manufactured into fine leather, gloves, or shoes; timber leaves F. in the shape of artistic furniture, etc., etc. F. imports, as already said, a good deal of coal and iron ore, as well as of colonial wares, cattle, cereals, and other alimentary substances, representing an aggregate of $257,037,200; she exports, too, $133,854,000 worth of these, and $138,095,000 worth of raw produce. The total amount of F.'s foreign commerce in 1888 was exports, $859,600,000, imports, $1,037,400,000.

None of the French colonies is a source of enrichment for the mother country. The total of French exports to the colonies amounts to about $45,000,000, Algeria alone representing $32,500,000; while the imports from the colonies (exclusive of Tunis) are valued at about $55,000,000, Algeria representing about $25,000,000, and the produce of the Newfoundland fisheries (imported from St. Pierre and Miquelon) $5,000,000.

Government and Administration.—Since the overthrow of Napoleon III., 1870, Sept. 4, F. has been under a republican form of government, sanctioned in 1875, February, by a constitutional law which has undergone since but slight modifications. The present French constitution remains a mixture of monarchical and republican institutions, and it has fully maintained its strong and old-established centralization.

The unit of French administration is the commune, the size of which varies greatly, and which administers its own local affairs by means of an elected municipal council and an elected mayor. (Paris and Lyons have mayors for each of the divisions of the city, the place of mayor of the city being taken by a nominated *préfet de police* and a *préfet*, whose jurisdictions overlap and occasionally come in conflict.) The independence of the communes is very much checked by the central government, but the present tendency of the more advanced municipalities is to take into their own hands the administration of a wide range of affairs formerly considered attributes of the state, while some of them incline more and more toward taking over the solution of important social questions. Every ten to fifteen communes constitute a canton, and next comes the arrondissement, or district, composed of not more than nine cantons; this has its own elected council, intrusted with the assessment of the local taxes, and subject to the subprefect. Four arrondissements on an average compose a department. This division was introduced during the great Revolution, when it was found desirable to abolish the old provincial institutions and to submit the whole of F. to a centralized government. Nearly all departments are administrative areas which have received their names from their chief rivers or mountains, but otherwise have no geographical or economical meaning. F. had 89 departments before 1870, but now it has only 86 or 87 if the 'territory of Belfort' be considered as a separate department (Haut Rhin). Each of them has a general council (elected by universal suffrage—each canton electing one councilor). The general councils have wide powers as regards taxation and the promotion of institutions of public utility; but their decisions are jealously controlled by the prefect, who is the representative of the state in the department.

The legislative functions of the central government are vested in the chamber of deputies and the senate; and the executive power in the ministry and the president of the republic. The chamber is composed of 584 deputies (6 for Algeria and 10 for the colonies), elected for five years by universal suffrage, in the proportion of at least one deputy for each district, or as many more as the population of the district contains hundreds of thousands of inhabitants. The composition of the senate is more complicated. Under the Constitution of 1875, of the 300 senators 75 had to be nominated for life by the government; but, by an amendment of the law, these are replaced by election as they die out. Of the remaining 225 seats a third are filled every third year by means of double election. Every new law must be voted by both the chamber and the senate; and a congress of both bodies sitting together must be convoked for discussing alterations of the constitutional law.

The ministry is selected from the chamber by the president of the republic, whose powers are, on the whole, very wide. He promulgates the laws voted by the two legislative bodies, he concludes treaties with foreign powers, appoints all functionaries, and has the right of dissolving the chamber with the approval of the senate. There is, moreover, a special body, the council of state (*Conseil d'Etat*), which dates from the first and second empires, and now has the duty of giving its opinion to the government upon pending legislative schemes.

A formidable army of functionaries stands under the central government, in subjection to the prefects, who themselves are wholly under the authority of the ministry of the interior, and exercise a powerful influence on the results of the elections through their subordinates, as well as by means of various kinds of favors which they are in a position to accord to tradesmen, industrial establishments, and all kinds of private persons.

The names adopted by the sections of the legislative assembly in 1791, from the part of the house in which they sat, have, with modifications, been retained in F., and extended to parliamentary parties in Germany and other countries. Those sitting on the 'Extreme Right' and the 'Right' of the president's chair were representatives of the burgher interest, Constitutionalists like the Feuillans (q. v.), and supported the king as far as they could. The 'Left' was composed of the Girondists (q. v.), moderate republicans, who favored the constitution as it stood. The 'Extreme Left' sat on the higher benches, and was nicknamed the 'Mountain;' it comprised representatives of the advanced clubs, Robespierre of the Jacobins (q. v.), and Danton of the Cordeliers (q. v.). The 'Centre' had no definite principles, usually voting with the 'Left.'

The judicial organization maintains many traces of its ancient character, and remains a powerful instrument in the hands of the government in political matters. In each canton there is appointed a justice of peace, who can decide only small civil cases where a value of not more than $40 is involved. Affairs of more importance must be brought before tribunals sitting in each district, all cases involving more than $200 being open to appeal before the appeal courts. In larger cities there are commercial courts and tribunals of *prud'hommes* elected by the heads of industrial establishments and the workers.

In criminal matters the secrecy of preliminary investigation (instruction) is a distinctive feature of the French judicial organization; and this investigation, conducted by a state functionary, may last for months. No counsel for the defence is admitted till the affair has come before a court. Minor offences are tried by police courts, and a wide range of crimes, involving imprisonment for many years and the loss of civil rights, are tried by the courts of Police Correctionnelle without jury. The assize courts are assisted by a jury; but the jurors (from 400 to 3,000 for each department) are chosen from among the citizens over thirty years old by a special committee composed in each canton of the mayor, the justice of peace, and his deputies; and that commission has the power to exclude any citizen from the list of jurors. These lists are submitted to a further scrutiny by a second district committee, which has the further right of nominating additional jurors to the extent of one-tenth of the total number required. From the decisions of all kinds of tribunals appeal may be made to the Court of Cassation (q. v.). The government is represented at each court by a public prosecutor. Separate military and naval courts pronouncing severe judgments in the smallest disciplinary matters complete an organization which has been less modified than any other by the progress of liberal ideas. For French law, see CODE.

The French prisons, one in each department, and nine central prisons for convicts undergoing more than one year's imprisonment, are mostly organized on the system of renting the prisoners' work to private employers. Those condemned to hard labor (an average of about [illegible] every year) are sent to New Caledonia or to Guiana.

Religion. There is complete religious toleration in F., but three faiths are recognized by the state, i.e. their ministers are paid by the state, and enjoy several privileges. These are the Catholic, which is professed by [illegible] per cent. of the population; the Protestant, which has nearly [illegible] members, chiefly Calvinist; and the Jewish ([illegible] in F., [illegible] in Algeria). The Mohammedan religion stands in the same position in Algeria. The statistics for [illegible] show an aggregate of 54,513 priests, including chaplains, and 10,500 pupils of diocesan seminaries.

Public Instruction. The present system is the outcome of a long, not yet fully terminated, struggle between the state and the church, for the right of using education as a means for promoting each its own ends. The National Convention drew up in 1794 and 1795 a wide scheme of public education under the control of the state and to the exclusion of the clergy. But the scheme was never carried out, and under Napoleon I. education was organized so as to be subject to the combined influence of the state and the church. The right of establishing private schools was as good as prohibited. In 1833 (under Louis Philippe and Guizot) the church obtained several privileges in its favor; and those privileges were confirmed and extended to middle and higher education by the two republican governments of 1850 and 1875. The church not only thus had its own primary schools, but it obtained the same privileges as regards secondary education, as well as the right of conferring university degrees. The laws of 1880 were a return to the schemes of the Convention. By these laws compulsory and free primary education has been introduced under the control of the state; the privileges of the church have been abolished; and, instead of religious teaching, the teaching of 'civic morality' from handbooks issued by the state has been introduced. But this subject has again come up for consideration. Private schools of all degrees are permitted, provided the teachers pass the obligatory examinations.

F. is divided into seventeen educational districts called *académies*, the rectors of which are intrusted with the administration of higher and secondary education, as also with the inspection of the primary schools. Each educational district has an academic council and each department has a council composed partly of state officials and partly of general councilors and delegates from the school masters. In 1886 there were 66,500 primary schools, having 90,000 school masters, of whom 16,400 were members of religious orders. Teachers are trained in eighty-nine training schools for male, and seventy-seven for female teachers. Nearly one tenth of all recruits are still illiterate.

Secondary education, which may be classical, scientific, or technical, is provided for in 98 *lycées* and 256 *collèges* for boys (100,000 pupils), and 35 *lycées* and *collèges* for girls (only 9,600 pupils); the latter are of quite recent introduction, the girls formerly being chiefly trained in convents, or receiving no education at all. Some 18,000 boys still receive secondary education in schools kept by the Catholic clergy.

Higher education given in the *facultés* (universities) is of a high standard and almost quite free. The chief centres are at Paris, Lyons, Bordeaux, Toulouse, Montpellier, Nancy, Lille, Nantes, and Grenoble; but most of these have only three, two, or even one of the four separate *facultés* (law, medicine, natural science, literature). Indeed, there is but one university of F., officially so called, which comprises the *facultés* at all the various centres: see UNIVERSITY. Altogether these have 1,500 professors and about 18,000 students. The clergy have their own 'free universities.'

Various special institutions, such as the Collège de France, the Museum of Natural History, the Polytechnic School, and many others have a great reputation of long standing. For the Institute of France, with its five academies, see ACADEMY.

Army and Navy. During the German war of 1870-71 F. was able to meet the invaders with less than 400,000 men and 1,250 guns; and it was not till after the fall of Napoleon that 700,000 men, mostly untrained and very badly provisioned, could be brought into the field. The whole system was totally reorganized in 1872. According to the new law, which received further development from subsequent legislation, especially in 1889, every Frenchman twenty years old, if not unfit or exempted from service for educational reasons, must enter the army and serve three years in the active army, six in the reserve, six in the territorial army, and ten in the territorial reserve. Rifles, guns, and all the necessaries of warfare are kept in readiness for nearly 4 million men. Nearly 300,000 young men are called out every year, and more than 200,000 enter the ranks. The army numbers [illegible] men and has [illegible] horses in time of peace. But in case of war it can be raised to 2½ million men, and 1½ million men more, all having received military training, may be added to the above. The military education of the soldiers is now much better than it was before 1870. See also ARMY.

The French navy is second only to that of Great Britain. It consisted in 1890 of 32 line-of-battle ships, of which 17 are built of steel or steel iron, and 15 of iron and wood; it numbers 14 barbette ships ranging from 7,100 to 11,200 tons, and with a speed of from 11 to 15 knots, and armor from 8$\frac{3}{4}$ to 22 inches thick; of these 11 have been launched since 1879. There are 7 central battery ships, 5 barbette and 2 broadside cruisers of an old type, 16 armored coast defence ships; the torpedo fleet consists of 4 torpedo cruisers, 8 dispatch boats, 17 sea-going torpedo boats, 51 first-class, 60 second class, and 7 third-class torpedo boats, and one submarine boat; 11 vessels of the newest patterns are now under construction, and it is proposed to complete 11 ships, including a line of battle ship, 4 first-class cruisers, and 5 coast-defence vessels by 1895, and in addition provision has already been made for 3 more first class ironclads, and 5 protected cruisers. The navy was manned in 1890 by 27,685 warrant officers and sailors, 15 vice-admirals, 30 rear-admirals, 100 captains of vessels, 200 frigate captains, 700 lieutenants, 420 ensigns, and 902 cadets. The marine infantry numbered 19,565, and the marine artillery 5,774. The appropriation for the navy in the budget of 1890 was $41,042,845.

Finances. Like all other European nations, F. sees its budget increasing every year, and yet never covering the expenditure. The chief source of revenue is indirect taxation (excise, registry, customs, and stamps), which forms about 62 per cent. of the revenue; the direct taxation (land, trade, licenses, personal property, and doors and windows) comes next and makes 15 per cent. of the revenue; the monopolies (such as tobacco) and the remunerative services (like the post office) supply 20 per cent. of the yearly income, and all these sources together have yielded annually during the ten years 1880-89 a little over 3,000 million francs ($600,000,000). But, as the expenditure exceeds the income, extraordinary sources of revenue—chiefly loans—are resorted to, and during these ten years the real budgets varied from $709,600,000 to $883,400,000 under the head of revenue, and from $708,400,000 to $838,000,000 under the head of expenditure. Various new indirect taxes have had to be introduced to meet the expenses, among which the army counted for over $111,200,000 in 1889, the navy for nearly $38,600,000, the administration for $65,400,000, the public instruction for $27,200,000, and the public debt for no less than $258,200,000, *i.e.*, more than one third of the yearly revenue.

The public debt, which reached $1,163,200,000 on the eve of Napoleon III.'s *coup d'état* (1851), was more than doubled during his reign. It rose to $2,490,800,000 in 1870, and more than $2,200,000,000 has been added to it since, chiefly on account of the war indemnity and war expenses, which together amounted to nearly $2,000,000,000. The French debt is now heavier than that of Great Britain, and the more so as F. pays much higher interest on it. Collectively the national debt has been calculated at from $6,400,000,000 to $7,200,000,000, which is about the estimated aggregate yearly income of the whole of the nation. The aggregate debts of the separate municipalities reach about $600,000,000. Paris is one of the most heavily indebted cities of Europe, and pays every year no less than $21,400,000 of interest upon its municipal debt.

For the money, weights, and measures used in F., see FRANC, MÈTRE, LITRE, GRAMME, DECIMAL SYSTEM. For further information on F., geographical and statistical, see Elisée Reclus's Nouvelle Géographie, En France, by Onésime Reclus, France as It Is, by André Lebon and Paul Pelletier (trans. by Mrs. W. Arnold, 1888); French and English, by P. G. Hamerton (1889); Block's Annuaire, and his Dictionnaire; official publications, such as the Annuaire Statistique de la France; the Almanach de Gotha, Statesman's Year-book, etc. For the geological history of F., see the article EUROPE; also the great geological chart of F., on the scale of 1-500,000th (1882-89).

History. Through association of mind with the people and country of F. in their contemporary form, the student of French history starts with an aggregate of geographical, ethnological, and sociological notions whose validity diminishes in proportion as he plunges deeper into the past.

In prehistoric times, among the inhabitants of western Europe, from the Rhine to the Atlantic seaboard, no essential lines of difference can be drawn; the Alps, the Pyrenees, the British Channel formed landmarks of a superficial character. But the Rhine was then, as it is now, a sharp ethnological boundary. The trading voyages of the Phœnicians and the conquests of the Carthaginians left no impression upon the west of Europe. Though Greek civilization gained a footing at Massilia, now Marseilles, history for F., as for Great Britain and Spain, began with the Roman Conquest. Julius Cæsar is the first historian of F., which, under the name of Gaul, was invaded by him (59-51 B.C.), civilized by force, and incorporated into the Roman empire. Thanks to the common ethnological points of Celt and Roman, the native elements rapidly adopted the imported language, culture, and laws of Rome. Protected against Teutonic invasion by military posts on the Rhine, subjected for the first time to legislation and administration, the Gallic tribes, who had risen before their conquest to the height of civilization attainable by them without foreign aid, turned to peaceful pursuits, such as agriculture and commerce, and built for their governors amphitheatres, public baths, aqueducts, military roads. Lugdunum (Lyons) became a transalpine Rome. In the 2d century A.D. Gaul was the most populous, in the 4th it was one of the most civilized Roman provinces. Its schools were so famous that Roman-born students went to learn there the art of eloquence. Its nobles and cultured classes supplied the empire with more than one general and with more than one poet or prose-writer. It became the home of an enlightened Christianity, but did not escape the rebellions of slaves and land-laborers which broke out now and then in the empire, and bore witness to aristocratic and ecclesiastic oppression. Thus, by the engrafting of Roman civilization upon the old Celtic stock, there grew between the Alps, the Mediterranean, the Pyrenees, the Atlantic, and the Rhine a Gallo-Roman state, with a culture free from the Hellenistic stamp peculiar to the eastern provinces of the empire, and more akin in many respects to our modern circumstances than to those of the ancient world. Indeed, Gaul was fast being elaborated into a pure neo-Latin nationality, when, from the year 395 onward, the Teutonic tribes, pent up to the east of the Rhine, and pressed from behind by Slavonic hordes, burst upon the scene and acted as a dissolvent upon Roman civilization. Beaten in Tuscany in 406, bands of Vandals, Burgundians, Suevi, and Alemanni, falling back upon Gaul left bare of troops, destroyed the forts on the Rhine and in the interior of the country. After long wanderings the Burgundians settled in the fruitful plains of the Rhone valley, and founded the kingdom of Burgundy from the Mediterranean border to the Vosges. A few years later the Goths, also retreating from Italy, occupied both sides of the Pyrenees, founding the kingdom of the Visigoths, from the Garonne in the north to the Ebro in the south, with its capital at Toulouse. In 451 a Roman general of barbarian birth, Aetius (q.v.), fighting at the head of an army in which Romans, Burgundians, and Visigoths stood side by side, defeated in the Catalaunian fields (Châlons-sur-Marne) the hordes of Attila. This was Rome's last deed of war in Gaul.

The staff of military supremacy fell from the hands of the Romans into those of the Franks. These were a confederacy of the Germanic tribes between the Rhine and the Harz mountains, whom the Romans had attacked in vain, and to whose persistent invasions they had to sacrifice Belgium. Once in possession of the banks of the Meuse and of the Sambre, they advanced under their king Clovis (481-511) toward the Seine and the Loire, and made at first Soissons and then Paris their capital. Clovis became a Christian. Carving out for himself a realm abutting to the south upon the Visigoths, and to the east and south-east upon the Burgundians, he laid from the Rhone and Garonne to Brittany foundations for the future kingdom of F. Clovis, through his zeal in the interests of the Catholic Church, earned the title of 'Most Christian king,' which passed from the Frankish chiefs to the kings of F. The emperor at Constantinople gave him the Roman title of patrician and consul. The Franks remained subject to their own 'Salic law,' but they maintained in Gaul Roman law, Roman state and church organization. Thus a Germanic tribe became the leading military and political agent in the plains of northern Gaul, and gave to F. its name and its first dynasty of kings, the Merwings or Merovingians (q.v.); but it adopted the Romance tongue of the conquered, and so did the Visigoths and Burgundians in their own dominions

In 752 the Karlings, or Carlovingians (q.v.), in the person of Pepin the Short, superseded the Merovingian dynasty, and laid the foundation of the temporal power of the popes. Pepin's son, Charlemagne (768-814), raised to its zenith the supremacy of the Franks in western Europe, by uniting under his hegemony the Germanic states hewn out of the Roman provinces. Coming at a time when the Germanic ruling classes were no longer separable from the conquered masses, the formal centralization of power in his hands, ratified by his coronation in 799 as Roman emperor by the pope Leo III., could not long stem the forces at work for the splitting up of western Europe into a number of small states; neither could this result be accomplished by the building up of a military monarchy extending from the Ebro in Spain, and from the Apennines in Italy, to the North Sea, and from the Atlantic to the Elbe in Germany, the establishment of a code of imperial law and of a system of imperial government, the encouragement of learning and commerce. The Frankish military hegemony fell to the ground under the reign of his weak successors. The next step toward the formation of F. was the Treaty of Verdun (843), by which the localization of the Germans became final; their former racial unity sank in an awakening sense of different nationalities.

Feudal Monarchy. Though Charles the Simple was politic enough to put an end to the incursions of the Normans by making their leader Rollo duke of Normandy, the unchecked development of a hereditary aristocracy had reduced the royal power to a shadow, when in 987 Hugh Capet, count of Paris and of Orleans, was made king by the feudal chiefs. He was the real founder of the French monarchy as distinct from the extinguished Frankish kingship, and from the imperial dignity which was vested after Charlemagne in the ruling house of Germany. While the Roman emperors of the German nation often took up their abode at Aix-la-Chapelle, Charlemagne's residence, the Capetian kings, residing in Paris and crowned in Rheims, became an outward sign that the Rhine divided races again, as in the days of Varus and Arminius (q.v.). Louis *le Gros* (1108-37) regulated the feudal system, abolished serfdom on his own estates, secured corporate rights to the cities under his jurisdiction, while a new element in the state was generated by the foundation of a free burgher class. At this juncture the policy of the Plantagenets forced England into hostility with F. Henry of Anjou, already duke of Normandy, suzerain lord of Brittany, count of Maine and Touraine, had married Eleanor of Aquitaine, who brought him the provinces of Guienne, Poitou, and Gascony; and when in 1154 he became king of England as Henry II. (q.v.), his prestige outshone utterly the French court. The kings of England laid claim to the crown of F.; the French kings demanded obedience from their too powerful vassals. Hence an enmity so persistent, and fed subsequently from so many sources, that the Crusades, of which the Normans were the most zealous promoters, and in our days the Crimean war, offer the only instances of military fellowship between England and F. Philippe Auguste (1180-1223), recovered Normandy, Maine, Touraine, and Poitou from John of England. He took an active personal share in the Crusades, and permitted the pope to organize a cruel persecution against the Albigenses in the southern parts of the country. Philippe was the first to levy a tax for the maintenance of a standing army, and in his reign a chamber of peers, of six secular and six ecclesiastical members, was instituted to act as a council of state. Many noble institutions date their origin from this reign, as the university of Paris, the Louvre, etc. A right of appeal to the royal courts was established, and the arbitrary power of the great vassals crippled. Improvements in the mode of administering the law were continued under his son and his grandson, Louis IX. (1226-70), who before his departure for the Crusades secured the rights of the Gallican Church by a special statute in order to counteract the constant encroachments of the papal power. Under his son Philippe III. (1270-85) letters of nobility were first conferred by letters patent. He added Valois and the counties of Toulouse and Venaissin to the crown. Philippe IV. (1285-1314), surnamed *le Bel*, acquired Navarre, Champagne, and Brie by marriage. With the object of securing support against the secular and ecclesiastical nobility, Philippe gave prominence to the burgher element in the nation, and for the first time called together the *États Généraux*, or States-General, at which the *tiers état*, or burgher class, appeared together with the nobles and clergy. With the view of securing to the crown the great fiefs, he abrogated the right of females to succeed to landed property. His tyrannical persecution of the Templars showed his abuse of the regal power, while the transference of the holy see to Avignon brought the popes for seventy years under the influence of the French court. Under his three sons and successors, Louis X. (1314-16), Philippe V. (1316-22), and Charles IV., *le Bel* (1322-28), the rule of the kings of F. was strengthened and extended.

House of Valois. Philippe VI. (1328-50), the first of the house of Valois, succeeded in right of the Salic law. His reign, and those of his successors, John (1350-64) and Charles V., *le Sage* (1364-80), were disturbed by constant wars with Edward III. of England, who laid claim to the throne in right of his mother, a daughter of Philippe *le Bel*. The war began in 1339; in 1346 the battle of Crecy was fought; at the battle of Poitiers (1356) John was made captive; and before its final close, after the death of Edward (1377), the state was reduced to bankruptcy, the nobility excited to rebellion, and the mass of the people sunk in barbarism. Debasement of the coinage, onerous taxation, and arbitrary conscriptions brought the country to the verge of irretrievable ruin, while the victories of England humbled the sovereign, annihilated the French armies, and cut down the flower of the nation. The long and weak minority of Richard II. diverted the English from the prosecution of their groundless claims to the kingdom of F.; but during the minority of Charles VI., *le Bien Aimé* (1380-1422), the war was renewed with increased vigor on the part of the English nation, who were stimulated by the daring valor of Henry V. The signal victory won by the English at Agincourt in 1415; the treason and rebellion of the French princes of the blood, who governed the larger provinces; the ambition of the several regents, the ultimate imbecility of the king, the profligacy of his queen, and the love of pleasure early evinced by the dauphin; all combined to aid Henry in his attempts upon the throne. But the premature death of Henry, the persevering spirit of the people, and the extraordinary influence exercised over her countrymen by the Maid of Orleans, concurred in bringing about a thorough reaction, and, after a period of murder, rapine, and anarchy, Charles VII., *le Victorieux* (1422-61), was crowned at Rheims. He obtained from the States General a regular tax (*taille*) for the maintenance of paid soldiers, to keep in check the mercenaries and marauders who pillaged the country. The policy of his successor, Louis XI. (1461-83), favored the burgher and trading classes at the expense of the nobles, while he humbled the power of the vassal princes. He was a crafty ruler who managed the finances well, and succeeded in recovering for the crown the territories of Maine, Anjou, and Provence, while he made himself master of some portions of the territories of Charles the Bold, duke of Burgundy. Charles VIII. (1483-98), by his marriage with Anne of Brittany, secured that powerful state, and consolidated the increasing power of the crown. With him ended the direct male succession of the house of Valois.

Louis XII., *le Père du Peuple* (1498-1515), was the only representative of the *Valois-Orléans* family. The tendency of his reign was to confirm the regal supremacy, while the general condition of the people was ameliorated. He and his successor, Francis I. (1515-47) of the *Valois-Angoulême* branch, wasted their resources in futile attempts to establish their hereditary claims to Lombardy. Francis I.'s rivalry with the Emperor Charles V. of Spain, representative of the house of Hapsburg-Burgundy, gave itself vent in four wars for the possession of Burgundy and Italy. Taken prisoner at the battle of Pavia (1525) and led away to Madrid, Francis ultimately made good his title to Burgundy (1544), but had to renounce Italy. His reign is marked by the flowering of the Renaissance, by the beginning of the Protestant Reformation, by the further strengthening of the absolute power of the monarchy by the subordination of the clergy to the crown in terms of the 'Concordat' signed with the pope. An ally of the Protestant princes of Germany and of the schismatic king of England, Henry VIII., he yet remained, at least outwardly, an adherent of the Roman Catholic religion. He and his immediate successors were confronted [illegible] with the [illegible] aspects of the Reformation, which [illegible] its adherents from the aristocratic and enlightened classes. Henry II. (1547-59) recovered Calais for F. Under Francis II. (1559-60) the Roman Catholic house of Guise obtained possession of the effective power in the state. Their adversaries, the house of Bourbon, headed the movement of the 'Réforme.' Under the weak kings Charles IX. (1560-74) and Henri III. (1574-89), who were under the influence of their mother, Catharine de'Medici, this division in the French nobility resulted in the war of the League and wars of religion. The massacre of the Protestants on the night of St. Bartholomew (1572) raised to such a pitch the pride of the house of Guise that Henri III. fled to the camp of the Bourbon leader, where he was murdered by a fanatical monk. The name of Charles I. remains associated with the horrors of the St. Bartholomew's night, which witnessed the striking of a blow at the very heart of the nation; the first step in a periodical recourse to murder, persecution, and proscription. Such horrors, renewed by Louis IV. against the Protestants, and applied by the Revolution to a different class, have, with the triumphant campaigns of Napoleon, done more to weaken F. than the worst blows of its enemies.

Bourbon Line. The accession of the Bourbon prince, Henri IV. of Navarre (1589-1610), allayed the fury of religious wars, but his recantation of Protestantism in favor of Catholicism disappointed his own party, to which, however, he granted the free exercise of their religion and ecclesiastic autonomy by the Edict of Nantes (1598). By degrees Henri, through the counsels of his minister Sully, and by his own personal popularity, raised the power of the crown higher than ever, while he began a system of thorough administrative reform, which was arrested only by his assassination by the fanatic Ravaillac. During the reign of his son, Louis III. (1610-43), Cardinal Richelieu, one of the greatest statesmen of modern Europe, resumed the policy of Francis I. against the house of Hapsburg by entering into a compact with the Protestant princes engaged in the Thirty Years' War, raised higher the authority of the crown at home, and humbled the Huguenots, who in the south and west of F. had established almost a state within the state. Cardinal Mazarin, under the regency of the queen-mother, Anne of Austria, governed during the minority of Louis XIV. His continuation of Richelieu's policy roused the parliament of Paris to a last effort in favor of its ancient political liberties, systematically cut down or ignored by the kings; the nobility also made a last stand for their feudal rights. The civil war of the Fronde ensued (1648-53). Its termination put all classes under the heel of the young king, Louis XIV. (1643-1715), who could justly say, with local parliaments reduced to judicial and administrative bodies, with aristocrats demeaned into courtiers, *L'etat, c'est moi.* During his reign the French monarchy culminated. But under a cloak of magnificence sores gathered sufficient to effect its ruin less than seventy-five years after his death. He continued the policy of Richelieu and Mazarin. The successes of his armies under Condé, Turenne, Vauban, Luxembourg, Catinat, Vendôme, Boufflers, and Créqui extended the boundaries of F. to the Rhine, and to Flanders in the north; this was mainly due to the talent of Louvois in developing the military and naval resources of F., and to the financial skill of Colbert. But the war of the Spanish Succession (1701-14), though confirming a prince of the house of Bourbon upon the Spanish throne, ended disastrously for the French, repeatedly defeated by Prince Eugene of Savoy and Marlborough. At home the greatest splendor and luxury were displayed; art, literature, and science flourished to a degree unknown before. The proud king compelled the pope to restore to the Gallican Church some of its privileges, but he fell under the influence of Jesuit advisers, and dealt his country a baneful blow by the revocation of the Edict of Nantes (1685) causing 50,000 Protestants to emigrate. At the close of his rule his absolutism and bigotry, the oppressive war taxes, the prodigality of the court, and the luxurious lives of the clergy bore their fruit.

His youthful heir, Louis XV. (1715-74), succeeded to a heritage whose glory was tarnished, and whose stability was shaken to its very foundations. The long reign of Louis XV. presents nothing worthy of notice except the gradual rise of those modern philosophical and political sentiments which prepared the overthrow of all the ancient institutions of the country. The regency of the profligate Orleans paved the way for the miseries which followed, while his corrupt financial administration brought the nation into the most overwhelming financial embarrassments. In this reign Corsica was added to F. The thorough disorganization of the state, and the neglect of the fleet and army, prevented all attempts at conquests either by sea or on land. The colonies were left a prey to the attacks of other powers, while the capricious change of policy which the king's mistress, Madame de Pompadour, forced upon the government brought contempt on the country. The Peace of Paris (1763), by which the greater portion of the colonial possessions of F. were given up to England, terminated an inglorious war, in which the French had expended 1,350 millions of francs. The close of this unhappy reign was still further disturbed by the cabals of the Jesuits, but their banishment in 1764 marked the triumph of the philosophic movement over the Roman Catholic Church. In 1774 Louis XVI., a well-meaning, weak prince, succeeded to the throne. His first ministers, Maurepas, Turgot, and Malesherbes, had not the vigor to carry out reforms. They were succeeded by the financier Necker, who endeavored, by economy and method, to arrest the impending bankruptcy of the state. The influence of Voltaire, Rousseau, Montesquieu, and a host of other writers imbued with the modern democratic spirit, the sufferings of the masses, the importation of English political ideas, the American war of independence, in which the French took an important part (in pursuance of a deliberate design in this way most effectually to weaken England), the restoration to the Paris and provincial parliaments of some of their long-lost privileges, conspired together to sound the death knell of monarchical absolutism. After much opposition on the part of the king and court, the States General, which had not met since 1614 assembled at Versailles, 1789, May 25. They formed themselves into a National Assembly, thereby commencing the Revolution, and, undertaking to make a new constitution, they presently called themselves the Constituent Assembly.

The Revolution. Under the *ancien régime* thus abruptly brought to an end the grades of nobility had become so numerous that their members stood in the ratio of 1 to 250 of the entire population. Nevertheless, every grade of nobility exempted its holder from the payment of the ordinary land-tax or *taille*, from the charge of maintaining the public roads (*corvée*), from military conscription, from receiving billets of soldiers, etc. The nobles paid the capitation tax, but in a very unequal proportion, although the landed property was vested almost entirely in their hands. They, in fact, together with the clergy, monopolized the principal share of the national revenues, and left to the lower classes the burden of labor and of paying the taxes. At the outbreak of the Revolution the French nobility were sunk in profligacy and fallen to the lowest stage of demoralization. The clergy kept pace with the nobles in general depravity, and while their aggregate revenues amounted, according to Necker, to 130,000,000 livres, and their landed property stood in the relation of 1 to 5¾ of that of all other proprietors, their contributions toward the maintenance of the state were inadequate and irregular. The *tiers état* were crushed by the weight of an unjust taxation, which was rendered more obnoxious by the system of farming out some of the taxes. The most tyrannical of these was the tax (*gabelle*) on salt. The municipal institutions which had been permitted to flourish under some of the Valois princes in the middle ages were almost entirely abolished, and the offices of towns, like those of the state and the courts of justice, were either hereditary or open to purchase. The *tiers état*, which included professional men and all who were not members of either the noble or the clerical order, saw themselves utterly excluded from all participation in the privileges and duties of free citizens at the very time when their minds were drawn to the discussion of questions of political independence, equal rights, and universal freedom.

The resistance made by Louis and his advisers to the reasonable demands of the deputies led to their declaration of inviolability. The king retaliated by ordering a large body of troops under arms, dissolving his ministry and banishing Necker, whom he had shortly before recalled under the pressure of public opinion. The consequence was the outbreak of insurrectionary movements at Paris, where blood was shed 1789, July 12. On the following day the National Guard of Paris and a new civic militia under the authority of the municipality, was convoked, and on the 14th the people stormed the Bastile. The provinces repeated the acts of Paris, and everywhere national guards and revolutionary municipal councils were called together. On Aug. 4 feudal and manorial rights were abrogated by the Assembly, which made a solemn declaration of the equality of human rights. The royal princes and all the nobles who could escape sought safety in flight. The royal family, having attempted in vain to follow their example, tried to conciliate the people by the feigned assumption of republican sentiments; but on Oct. 5 the rabble, followed by numbers of the National Guard, attacked Versailles, and compelled the king and his family to remove to Paris, whither the Assembly also moved. The next two years witnessed the solemn inauguration and the subsequent withdrawal of various constitutional schemes. The princes of the blood and the ancient noblesse raised corps of *émigrés*, but their efforts could not arrest the spread of republicanism. The king alternately made concessions to the republicans and cherished schemes for escaping from their surveillance; but each month added to his humiliations and to the audacity of those surrounding him. With the death in 1791 of Mirabeau, the champion of the National Assembly, all chance of the establishment of constitutional monarchy perished. The Constituent Assembly was succeeded in 1791 by the Legislative Assembly. The king was compelled by the Girondists to a war with Austria in 1792, April; and the early defeats of the French were visited on Louis, who was confined in August with his family in the Temple. The advance of the Prussians into Champagne threw Paris into the wildest excitement. The Assembly dissolved itself in September, the National Convention took its place, and the republic was proclaimed. In December the king was brought to trial, and called upon to answer for repeated acts of treason against the republic. In 1793, Jan. 20, sentence of death was passed upon him; and on the following day he was beheaded. Revolts burst out in every part of F. England, Holland, Spain, Naples, and the German states combined together against the republic. Christianity was now formally repudiated, and the sacredness of the republic and the worship of Reason solemnized. Marie Antoinette, the widowed queen, was guillotined. The dauphin and his surviving relatives suffered every indignity. A reign of blood and terror succeeded. Danton and Robespierre, after having condemned countless numbers to the guillotine, suffered each in turn a similar fate. After the destruction of the Terrorists a reaction gradually set in; the people were wearied of bloodshed and anxious for peace and order at any price. In 1793, 1795 and later insurrections took place in La Vendée on behalf of the white flag, but were quenched in blood. The brilliant exploits of the young general Napoleon Bonaparte in Italy turned men's thoughts into fresh channels. In 1795 a general amnesty was declared, peace was concluded with Prussia and Spain, and the war was carried on with redoubled vigor against Austria. The Revolution had reached a turning point.

A Directory was formed to administer the government, which was now conducted in a spirit of order and conciliation. In 1797 Bonaparte and his brother commanders were omnipotent in Italy; Austria was compelled to give up Belgium and recognize the cisalpine republic. The glory of the French arms was re-established abroad, but at home the nation was still suffering from the shock of the Revolution. The Directory repudiated two-thirds of the national debt, and thus almost ruined the commerce and credit of F. Under the pretext of attacking England a fleet of 400 ships and an army of 36,000 picked men were equipped; their destination proved, however, to be Egypt, whither the Directory sent Bonaparte; but the young general, resigning the command to Kleber, landed in F. in 1799. The Directory fell on the famous 18th Brumaire (1799, Nov. 9), under the constitution of Sieyès the state was put under three consuls, who, unlike those of Rome, were three in number, with different degrees of authority. Napoleon secured supreme power as First Consul. In 1800 a new constitution was promulgated, vesting the sole executive power in Bonaparte, who showed consummate skill in reorganizing the government, to which he imparted a system, an efficiency, and a spirit of centralization that secured a thoroughly practical administration. Having resumed his command, he marched an army over the Alps, attacked the Austrians unawares, and decided the fate of Italy by his victory at Marengo. In 1801 the Peace of Lunéville was concluded, and the boundaries of F. were once more extended to the Rhine. England was the only country which refused to recognize the various Italian and German conquests of F., and, with the exception of a brief period of peace. England remained the implacable foe of Bonaparte from the days of the consulate to his defeat at Waterloo. Every period of respite from war was employed by the First Consul in fostering trade and industry, and in obliterating both in private and public life the stains left by the **Reign of Terror.**

The Empire.—In 1804, on an appeal by universal suffrage to the nation, Bonaparte was proclaimed emperor. The pope came to Paris to crown him and his wife Josephine; a new nobility was rapidly created, and the relatives and favorites of the emperor received vanquished kingdoms and principalities at his hands. For a time Napoleon's influence with the weakened powers of the Continent succeeded in maintaining an injurious system of blockade against England; and, except in the Peninsula, his arms were everywhere victorious. His marriage, too, with the Archduchess Maria Louisa, a direct descendant of the ancient house of Hapsburg (1810), seemed to give to his throne the prestige of birth, which alone it had lacked. He kept up the democratic impulse of the Revolution as much as was wanted to drive his engine of war. His tactics would have availed him little against the successive European coalitions had he not adopted the principle of national armies, general conscription, and forced requisition introduced by Carnot, the 'organizer' of revolutionary F.'s victorious resistance against foreign aggression. This principle has since become the outstanding feature of continental warfare. It gave Napoleon an empire including practically the whole of Europe except Russia, Turkey and Great Britain, when it was quietly introduced by Prussia, it assisted effectually in bringing to a close the emperor's career, but not until he had made himself king of Italy (1805), made of Holland and Naples vassal kingdoms (1806), set up in Germany the Confederation of the Rhine, conquered Prussia (1806-7), occupied Portugal, deposed the Bourbons in Spain (1808), reduced the Hapsburgs after four campaigns from their mediaeval title of Roman emperors to the status of emperors of Austria, made of Rome a French town, and carried off Pope Pius VII to Fontainebleau. In the long run, the evils attending his high-handed policy both in F. and out of it undermined his position. The French navy was destroyed by Nelson at Trafalgar (1805), and **the sea trade of F. much injured.** His despotism, the unceasing strain of war, the burden of conscription, the estrangement between emperor and pope threw the seed of disaffection among the French people.

From 1811 to his final defeat in 1815 the emperor rapidly lost ground. The disastrous Russian campaign, in which his enormous army of 400,000 men was lost amid the rigors of a northern winter, was soon followed by the falling away of his allies and feudatories. Napoleon himself was still victorious wherever he appeared in person, but his generals were beaten in numerous engagements, and the great defeat of Leipzig (1813) compelled the French to retreat beyond the Rhine. The Swedes brought reinforcements to swell the ranks of his enemies on the east frontier, while the English pressed on from the south; the senate and his ministry betrayed his cause, and the allies marched on Paris, which, in the absence of the emperor, capitulated after a short resistance, 1814, March 31. Napoleon now abdicated in favor of his young son, and retired to the island of Elba, the sovereignty of which had been granted to him. His wife and son removed to Vienna; his family were declared to have forfeited the throne; F. was reduced to her former limits and the provinces she had acquired were restored to their national rulers.

The Restoration.—On May 3 Louis XVIII (the brother of Louis XVI) made his entry into Paris. The conduct of the Bourbons did not conciliate the nation: they returned loaded with debts, and surrounded by the old nobility and clergy, who had not renounced their former privileges and who looked upon the generation of Frenchmen that had arisen since the Revolution as their natural enemies. A narrow spirit influenced the weak policy of the king, which led to the establishment of a strict censorship, the extension of the powers of the police, and the persecution of the adherents of the empire; while the lower classes and the army, who alike resented the humiliating reaction that had followed the former excitement of war and conquest, were treated with an indifference, and even contempt by the returned *émigrés* to which they were wholly unaccustomed. **In 1815, March 1, Napoleon left Elba and** landed in F. The soldiers flocked around his standard; the Bourbons fled, and he took possession of their palaces. The news of his landing spread terror through Europe; and on March 25 a treaty of alliance was signed at Vienna between Austria, Russia, Prussia, and England, and preparations were at once made to put down the movement in his favor and restore the Bourbon dynasty. At first the old prestige of success seemed to attend Napoleon; but on June 18 he was defeated at Waterloo; and, having placed himself under the safeguard of the English, he was sent to the island of St. Helena, in conformity with the generally acknowledged sentiment that it was necessary to the peace of Europe to remove him finally and definitely from the scene of his former power.

The second restoration gave occasion to many pledges of a more liberal policy on the part of Louis, but few of them were fulfilled, and a general and sullen discontent reigned among the people, who were again deprived of all voice in the administration or in the election to offices, and were harassed by the petty tyranny of the priests, who were the favorite advisers of the crown. In 1821 Napoleon breathed his last at St. Helena; and in 1824 Louis XVIII. died without direct heirs, when his brother, the Duc d'Artois, succeeded as Charles X. The same ministerial incapacity, want of good faith, general discontent, and excessive priestly influence characterized this reign, which was abruptly brought to a close by the revolution of 1830, and the election to the throne of Louis-Philippe, duke of Orleans, as king by the will of the people. Progress in material prosperity made his government popular with the *bourgeoisie* or middle classes, and for a time he held his ground. The warlike propensities of the nation found an outlet in the war in Algeria with Abd-el-Kader.

The Second Republic. But the determined resistance of the king to the growing desire for electoral reform led at last to open insurrection in Paris; and, Louis Philippe having abdicated (1848, Feb 24), a republic was proclaimed under a provisional government. An insurrection of the Red Republicans in Paris (1848, June) was only put down after great slaughter. Louis Napoleon was elected president of the republic in 1848 December; but by the famous *coup d'état* of 1851, Dec. 2, he violently set aside the constitution and assumed dictatorial powers; and a year after (1852, Dec. 2), he was raised by the almost unanimous voice of the nation to the dignity of emperor, as Napoleon III.

The Second Empire. The constitution of this second empire was the same as that of the first. A senate and a legislative body, shorn of all effectual parliamentary rights, screened badly the emperor's complete absolutism, under which, however, F. made great advances in the development of her natural resources and in manufactures. Assuming the character of an adjuster of the wrongs of nations, Napoleon proclaimed himself a mediator in the Danish and Austro-Prussian wars, and the defender of the Italians against Austria, of the pope against the people of Italy, and of the Mexicans against the government of the United States of America. By his help the Italians were relieved from the Austrian yoke, and the pope was left master of Rome; but in Mexico his intervention only led to greater bloodshed, and ended ignominiously for his arms, and fatally for the cause and life of his protégé, the Austrian Prince Maximilian. He acted better beside England in the Crimean war (1854-56), and entered upon a wise economic policy by signing with that country a treaty of commerce (1860) on free trade lines. Although the brilliant success of the Paris Exhibition of 1867 seemed to afford evidence of the personal and national consideration in which the emperor was held, his political credit had already then lost its importance. At home the great financial embarrassments of his government were arousing the discontent of the people, and to avert the growing disaffection Napoleon offered (1869) to adopt a constitutional form of government, and to make some concessions in regard to freedom of the press. It was soon found that the responsibility of the ministry was fictitious, and that the emperor availed himself of its protection to cloak his own acts of personal government. The result of the appeal made to the nation in 1870 on the plea of securing their sanction for his policy, was not what he had anticipated; and the 50,000 dissentient votes given by the troops in this plebiscite revealed a hitherto unsuspected source of danger. Confident in the efficiency of the army, and anxious to rekindle its ardor, he availed himself of a pretext to declare war against Prussia.

The course of events in the short but terrible Franco-German conflict of 1870-71 astonished Europe by its unexpected character, revealing at once the solidity of Prussian strength and the hollowness of imperial power in F. War was declared on July 15, and it had been the intention of the French emperor to cross the Rhine at Maxau and push his armies between the north and south German states so as to force the latter into neutrality. Such action required superiority in numbers and mobility at the very outset, besides good generalship. These advantages were soon found to be all on the side of the Germans, whose perfect organization enabled every detail of mobilization to be completed by July 30. Their troops, 518,800 men, with 1,584 guns, were then formed into three armies: the first under General Steinmetz, the second under Prince Frederick Charles, and the third under the Crown Prince.

The French had with difficulty collected 270,000 men with 925 guns by the beginning of August, and these were deficient in transport and equipment. The emperor assumed the chief command, and had 128,000 men between Metz and the frontier at Saarbruck, some 47,000 under Marshal MacMahon on the eastern slopes of the Vosges mountains, and 35,000 in reserve at Châlons. The first engagement took place on Aug. 2, when General Frossard's corps drove out the weak German detachment in Saarbruck, but did not push its success, and the Germans took the offensive next day. On the 4th the third army (130,000) on the German left met General Douay's advanced brigade (5,000 men) near Wissembourg (Ger. Weissenburg), defeated him, and pressed on to Wörth, where MacMahon had taken up a strong position with his main body (45,000). The battle fought here on the 6th was disastrous to the French, who fled in confusion through the Vosges mountains. On the same day the battle of Spicheren was fought between 67,000 of the first German army and 32,000 of Frossard's corps, and ended in the orderly retreat of the latter. As a result of these disasters the emperor found it necessary to retire toward Metz, and, after the fierce and unaided rear guard action at Borny on the 14th, entered that fortress on the following day with 176,000 men and 540 guns. He then abandoned the chief command to Marshal Bazaine. Meanwhile the second German army had reached the Moselle, and was threatening with its advanced troops the roads to Paris. This was unknown to Marshal Bazaine, although he had a large force of cavalry which should have kept him informed of the enemy's movements. He ordered the retreat westward to continue, and his staff made the great error of directing the bulk of the troops to use only one, and that the southernmost, of the two broad chaussées available. At least seventy-two hours would have been necessary to complete the withdrawal from Metz under these circumstances, and the Germans had already placed some cavalry across the road near Mars-la-Tour. On the 16th they were vigorously supported (as was invariably the case in this campaign) by other troops and succeeded in stopping the westward movement of the French. Next day the latter concentrated on the Gravelotte position, eleven miles in extent. On the 18th the pitched battle of Gravelotte was fought, and resulted in the French being driven back on Metz. Here they were surrounded, and, after several gallant but unsuccessful attempts to break out, surrendered on Oct. 27.

Thus within a month the regular armies of F. had been rendered powerless to oppose the German advance. But in the meantime the Gardes Mobiles had been called out, and with the remains of MacMahon's army formed at Châlons a body of 120,000 men, with 324 guns, much disorganized and almost entirely without discipline. With these it was determined to attempt to join hands with Bazaine by a northerly march, which was commenced on Aug. 21 without intelligence reaching the Germans, part of whose second army was again in motion toward Paris. On the 25th the Germans learned, it is said through a telegram in a foreign newspaper, of MacMahon's movements, and at once changed the direction of their march so as to intercept him. The effects of want of discipline and contradictory orders had greatly delayed his march, and he was much harassed by the enemy. Unluckily on the 30th the 5th corps under De Failly, having encamped near Beaumont without taking the precaution of protecting themselves by a chain of outposts, though it had been engaged the previous day, was surprised and driven northward on Sedan. Here MacMahon collected his dispirited troops, but only to find that the enemy had surrounded him, and by vigorous forward movements had captured the bridges over the Meuse and the commanding positions round the town. A fierce battle commenced early on Sept. 1 by the attack on Bazeilles. This village was captured by the Bavarians and recaptured by the French, and ultimately burned. By noon MacMahon had been wounded, and General Wimpffen as senior officer had taken command, only to find further resistance hopeless, in spite of the gallant charges of the French cavalry under General Marguérite, who fell at their head. Nearly 500 guns were playing upon the French, who were crowded into Sedan and under its walls, and at 5 P.M. the white flag was hoisted on the citadel. Next day the emperor, who was with the army, surrendered with 83,000 men.

On the 4th Paris was in rebellion, the senate dissolved, the empress-regent a fugitive on her way to England, and F. proclaimed a republic amid tumultuous excitement. Before the close of September, Strasburg, one of the last hopes of F., had capitulated, and Paris was completely invested by German troops; and on Oct. 5, the Prussian king had taken up his headquarters at Versailles. Gigantic efforts were made to raise armies in the provinces for the relief of Paris. Gambetta, escaping from the city in a balloon, joined the government at Tours, and by his energy got together many thousand armed men. These under the successive command of Generals D'Aurelles de Paladine, Chanzy, and Bourbaki fought stubbornly on the Loire, and with some slight success, threatening at one time to cut the German line of communications, at another to raise the siege of Belfort. But the surrender of Metz by Bazaine, and consequent reinforcement of the German armies around Paris, frustrated the first, and the masterly tactics of General von Werder on the Lisaine not only prevented the second, but drove the French troops into Switzerland, where they were disarmed and interned. While these events were occurring in the south and south-east, the Germans were overrunning the north as far as Dieppe, and fought a drawn battle with the French levies under General Faidherbe, who perhaps displayed more talent than any other French leader during the campaign. From Paris, where almost every able-bodied man was enrolled in the ranks, frequent sorties were made, and bloody battles fought in the villages to the east and south, Le Bourget, Champigny, Le Hay, Bougival, Raincy, etc., several of which were taken and retaken more than once. The city also underwent a bombardment for several days, from which, however, it suffered little and it was not till compelled by hunger in 1871, January, after four months' investment, that negotiations were opened with the enemy at Versailles. The united efforts of the different branches of 'the Provisional Government of Defence,' respectively installed at Paris and Tours, then succeeded in bringing about an armistice, and a portion of the investing army entered the city, which had been till then cut off from all communication with the outer world, except by balloons and carrier pigeons, and finally threatened by famine. They remained but a few hours, and with the concurrence of Germany the French nation now proceeded by a general election of representatives to provide for the exigencies of the country.

The Third Republic.—The First National Assembly of the French Republic met at Bordeaux in February. After receiving from the Provisional Government of Defence the resignation of the powers confided to them in 1870, September, the assembly undertook to organize the government, and nominated M. Thiers chief of the executive power of the state, with the title of President of the French Republic, but with the retention of responsibility to the National Assembly. On March 1 the preliminaries of peace were finally ratified at Bordeaux, the chief conditions being that the province of Alsace (except Belfort) and part of Lorraine, including Metz, should be ceded to the German empire, and that F. should pay a war indemnity of 5000 millions of francs, and continue to be occupied by German troops till the money was all paid. This enormous obligation was discharged in 1873, September, and during the same month F., after an occupation of three years, was finally relieved from the presence of foreign troops. In the spring of 1871, the peace of F. was seriously threatened by a succession of outbreaks at Paris on the part of the Communists; but after great bloodshed and grievous damage to public and private property, they were quelled by the regular army, and on May 29 order was restored in Paris.

The difficulties which beset the French in the war commenced with bad organization for collecting the reservists and mobilizing the army. In contrast to their opponents, it is remarkable how inefficient the French cavalry was in obtaining information, how slow one commander was to move to the support of another, how defective were the services of the staff, how little strategical talent was to be found among the generals, and how often ordinary military precautions were neglected by them. To these must be added most persistent bad fortune.

Since then France has been successfully trying to obliterate some of the numerous disasters resulting from the war, and commerce and national prosperity have very rapidly revived. The ex-Emperor Napoleon died in 1873 at Chislehurst, where he had resided with his family since his liberation in 1871, March. His son was killed in the Zulu war 1879. In 1873 M. Thiers resigned the office of president of the French republic, and was succeeded by Marshal MacMahon, who appointed ministers willing to pave the way for the reinstatement of the French monarchy, under the descendants of the Bourbon dynasty. But the plan of a fusion between the two branches of the family failed through the action of the Comte de Chambord, whom it was intended to make king under the title of Henri V.; whereupon the monarchical majority in the National Assembly, in spite of the growth of republican feeling in the country, confirmed for seven years MacMahon's tenure of the presidency. Affairs thus remained in suspense between a return to the monarchical government and a thorough acceptance of the republic. In 1875, however, by the accession of some Orleanists to the [illegible] party, it became possible to pass constitutional laws for the republic. A senate and chamber of deputies represented the people; a president [illegible] the head of the government. The general elections [illegible] showed that France [illegible] in favor of a parliamentary republic. A last attempt made in 1877, by the 'reactionary' parties to stem the tide of popular feeling met with a decided [illegible] the presence of a republican majority both in the [illegible] and in the senate Marshal MacMahon [illegible] and an out-and-out republican, M. Grévy [illegible]. Gambetta, the eloquent orator and leader of the republicans, who became after the death of Thiers the [illegible] power in France, now led his party into courses of [illegible]. The Communards were rehabilitated, the clergy was [illegible] by violent measures; the Tunis expedition was [illegible]; [illegible] on the other hand, [illegible] was [illegible] developed. To [illegible] the Orleanist, Legitimist, and Bonapartist [illegible] of France's former political states, and [illegible] the Roman Catholic Church, [illegible] most united [illegible] power in France, [illegible] added internal discord, [illegible] of parliamentary government. [illegible] the [illegible] peasant proprietors [illegible] representatives in their [illegible] prospects became clouded [illegible] to the premiership and his [illegible] 1882, which left his party without a [illegible]; through the [illegible] less owing to English [illegible] 1882; through [illegible] which cost [illegible] through [illegible] M. Grévy [illegible] presidency by [illegible] of M. Carnot [illegible]. [illegible] the republic had lost [illegible] the electors for General Boulanger [illegible] parties in [illegible] while [illegible] but in [illegible] legal parliamentary [illegible] had been instru[illegible] held their fourth [illegible] forward to general elections in [illegible] between Boulangists and [illegible] and Republicans. What [illegible] the [illegible] of the situation are summed up, and in spite of the permanent threat of a war with Germany, the fact remains that F., since the defeat received at the hands of that country, has immensely improved its material and military resources, and taken a long stride toward a healthy, well-regulated, peaceful, national life.

See the French Histories of France by Anquetil (1805; new ed., 1879), Sismondi (1834), Thierry (1827; new ed., 1872), Michelet (1833-71), Martin (4th ed., 1856-60), Guizot (1874), Duruy (1852); the Recueil des Historiens des Gaules et de la France, edited by Dom Bouquet and other Benedictines, and continued by members of the Institute (i.-xxvi., 1738-1885); Crowe's History of France (Lond., 1830-44); the short histories by Mrs Brook and Miss Yonge; and Dean Kitchin's History of France Previous to the Revolution (3 vols., 1873-77). For the Revolution, see the works of Mignet (1824), Thiers (1823-27), Louis Blanc (1847-64), Michelet (1847-53; centenary ed., 5 vols., 1889); Taine's Origines de la France Contemporaine (1875-85; Eng. trans., 1878-85); Carlyle's French Revolution (1837); Morse Stephens' History of the French Revolution (vol. i., 1886); and Von Sybel and Wachsmuth in German. For the Restoration, see Lamartine (1820) and Capefigue (1830); for the Revolution of 1848, Lamartine (1849), Garnier Pages (1862); and for the Second Empire, Delord (1869). See also the articles in this encyclopedia on the chief kings, rulers, and great men of F., such as FRANCIS I., HENRY IV., LOUIS XIV., DANTON, MIRABEAU, RICHELIEU, ROBESPIERRE, NAPOLEON, THIERS, GAMBETTA, etc.; and those on GALLICAN CHURCH, BOURBON, GIRONDISTS, HUGUENOTS.

Language and Literature. The French language belongs to a family which offers unusual interest and exceptional facilities for philological and literary study. From the standpoint of the English scholar it appears better suited than any other modern tongue to impart a sense of genesis in language, and by analogy and parallelism in almost everything else. It is the best specimen of its kind, because the decomposed soil from which it springs—Latin—is school property; because the successive states it has gone through are visibly marked on its material and in its significance; because its line of development, diverted from Roman culture, lies across the richest and most accessible historical ground. Moreover, since the rise of modern philology, no language has been subjected to more patient and more profound research, nor has any repaid more fully the labor expended upon it. No greater monuments of linguistic science have been erected than the special literature produced mainly in Germany and in F. by the students of French philology; so much so that one's admiration is divided between the intellectual penetration which has discerned the laws of growth in the French language, and the marvellous fixity and regularity of these laws themselves. Long before the Romans conquered Gaul their speech was already undergoing certain specific changes, whence in due course and in the proper places the modern languages of Italy, Roumania, Spain, Portugal, and F. would take their rise. These changes consisted principally in the weakening or dropping off of primitive elaborate case inflections, the suppression of short vowels between consonants that could with ease be pronounced together, a gradual increase in the stress laid in pronunciation upon the accented syllable, the use among the Roman plebs of forms and words not accepted in the polished classes of society, and the tendency to depart from the earlier and synthetic modes of expression, in order to introduce into the mechanism of speech a new class of words, which slowly took the place of perishing case and verb inflections.

Through Latin, its ancestor, French belongs to the Aryan stock of languages. Along with its sister languages Roumansch, Italian, Spanish, and Portuguese, it sprang into being when soldiers, colonists, and merchants, in the course of several centuries of Roman domination, had saturated western and southern Europe with the *lingua romana rustica*, or common Latin speech, an essentially popular and unliterary form of utterance, but forcible and instinct with an irrepressible vitality. This Latin of the Roman people and of their Italian possessions is known to philologists in the shape it received after the invasion of the barbarians and through the admixture of Teutonic elements under the name of Romance. It is as it were a vegetable mould spread to a great depth over the surface of western and southern Europe; and from its common properties were formed, by a process of differentiation, the special and localized soils suited to bring forth ultimately the distinct literatures of Italy, F., Spain, and Portugal. In F. Romance gave birth to Old French, which can be divided into three successive periods: the period of formation, the flourishing period, and the period of decay. The first is contemporaneous with the earliest middle ages, and its origin, like that of French history, dates back to the conquest of Gaul by Rome. The Celtic dialects were overpowered by the *lingua romana rustica*. While the masses spoke popular Latin, the literary dialect of Cicero was written and spoken by the educated and governing class; it was a class language, and continued so till the church was left alone in possession of this effete legacy of ancient Rome.

The *lingua romana*, according to a law inherent in every language, was already assuming local peculiarities in different parts of Gaul when the first move toward the formation of a French language, the campaigns of Julius Cæsar, was completed by a second, the settlement in Gaul of the Frankish, Burgundian, Saxon, and Gothic tribes from beyond the Rhine. The formation of different dialects received fresh impetus from the complete disruption of the Roman power in the west. From that day, the processes of decay, which till then might be considered as modifications within the *lingua romana*, assumed a regenerative character and became the starting point of a new language. To the Franks has fallen the honor of having their name attached to it. This Germanic title has by no means affected the inner construction of the language. Teutonic influences can be traced in goodly number in the vocabulary and phonetics of Old French; but the grammatical framework and the syntax, which developed only in the late stages of Old French, are wholly and absolutely Latin in origin and Latin in spirit. Language in Gaul, as elsewhere, ran into types: dialects, whose [illegible] courses are obscure, were formed. In the valleys of the Rhone and of the Garonne, in the whole country (very nearly the half of modern F.) verging to the Bay of Biscay, from **the mountains of Auvergne southward**, early French was not French: it inclined to the Italian and Spanish modifications of Romance, on which it bordered. These southern dialects, known under the collective name of *langue d'oc*, fell out of the race for supremacy when the centre of political and military power in Paris became strong enough to absorb the Mediterranean border in its circle of influence. By degrees inner troubles and invasion from without deprived the southern speech of its national significance as a body of language. Nowadays Provençal [illegible] is for the people a patois, for literary antiquaries and philologists a curious study. Its victor, the *langue d'oïl*, the parent of modern French, has had a triumphant career. Geographically, to it belonged the valleys of the Saône, Loire, Seine, Scheldt, and Meuse. [illegible] The dialect of Paris became predominant after the building up in Paris under the Capetian kings of a central power for the gradual nationalization of F. The culminating point of Old French was reached when it had evolved fully its [illegible] system in the 12th century.

[illegible] brought forth a stupendous amount of literature. For two centuries mediæval French was the polite language of Europe, more so than modern French has ever been; **for after the early** [illegible] literary outburst of the [illegible] the [illegible] of the [illegible] Renaissance, French had [illegible] contemporaries. It was [illegible] the last fifty years that French literature had its roots in the Augustan age of Latin culture and that [illegible] was the first art in which it flourished [illegible] French poetry and the classical [illegible] Its heart's best and [illegible] before [illegible] of Greece and of Rome. The national [illegible] of French [illegible] **Language, nationality** and society are even in the [illegible] ages **the constituent elements** of [illegible] reflected [illegible]

In the [illegible] period **of Old French, society is feudal, its** [illegible] sharply-defined classes; [illegible] which are first found the more strikingly national points [illegible] common sense, wit, good-humored satire, gracefulness, a fresh and nimble style; the villeins, affording to the burgher plentiful material for jest; the clerics, including the clergy and all professional men who spoke and wrote Latin and who when they took to writing in French brought to it the older language's historical and philosophical qualities. These four classes had their being between the four walls of mediaeval immutability: the Catholic religion, feudalism, monarchy, and the grossness of their world conceptions. Thus rough hewn, French society, from the 11th to well into the 14th century, assumed and preserved throughout the crusades, throughout the struggle between emperor and pope, in spite of the annexation to England for a time of a large portion of F., the proud position of master and arbiter in matters of the intellect and of social commerce. The deeds of war of the Frankish kings of the Merovingian and Carlovingian dynasties called forth French epic poetry. The appearance of Clovis as the champion of the Catholic faith against the Arian heresy, of Charles Martel as the protagonist of Christendom against the Moslem Arabs from Spain, of Charlemagne as conqueror of the heathen Saxons in Germany and of the Mohammedans on the banks of the Ebro, fed an ever-swelling strain of song till it rang its loudest in the Chanson de Roland (11th century). Round this epic poem, struck up by the Norman *trouvère* at the battle of Hastings, further royal, feudal, and biographical epics ranged themselves, almost all grounded on fact, some borrowed from antiquity, some suggested by the crusaders, some imported from Brittany. The last class may be claimed by Great Britain as derived from the literary fund of its oldest inhabitants; for, when the Celts of Britain had been driven from the east coast by the Angles and the Saxons, a part of them crossed the sea to French Brittany, taking with them the legend of King Arthur. Those who remained in Wales, after charming their Teutonic conquerors by their gift of song and poetry, fascinated with still greater ease the Normans Romanized by their long stay in F. Their Round Table, Perceval, and Lancelot were incorporated in Anglo-Norman literature, till they won for French in their continental form the prize of narrative poetry. From F. those romantic stories passed into the Netherlands, Germany, Italy, and the Spanish peninsula, carrying everywhere that air of chivalry and gallantry which, in matters of the imagination, gave an ideal to society and constituted its moral unity. In the middle of the 13th century the purely epic cycle and the romantic cycle ingrafted upon it were complete. Then came in verse the opportunity of the story teller and in prose that of the chronicler. The French fabliau or tale is characterized by wit, humor, alertness, good-tempered malice, and relaxed mockery, with a strong dash of the salt of coarseness. The Voltairean spirit already tripped lightly about, and the Italian writer in his swift pointed treatment of social matters, [illegible] *[illegible]* and Parisian vivacity which fixed a distinct current in the stream of French literature. Boccaccio and Chaucer drew much material from the French elaboration of tales hailing from all quarters of the globe.

Whole collections of fables were fathered upon Esop dubbed to that purpose with the [illegible] name of Isopet. By degrees the short fable was succeeded by long semi-epic semi-satirical compositions, in which [illegible] by the transference of social relations to the animal world. The Roman de Renard, the most [illegible] of these productions, was [illegible] interesting parts [illegible] of all literature, suggesting [illegible] and finally appearing as [illegible] in modern literature. In the 14th century [illegible] Master Reynard's exploits [illegible] of the time. It expresses [illegible] middle class [illegible] the landed aristocracy, and [illegible]. The French have to thank the crusades for their first histories. Some of these belong to [illegible] of F.'s ally, Richard Cœur-de-Lion. But they are outshone by Villehardouin's Conquête de Constantinople, the [illegible] historical composition [illegible] Herodotus as the Chanson de Roland reminds us of Homer. The Sixth Crusade and the life of Louis IX. are the subject of Joinville's Mémoires, while various causes resulted in an outburst of French or rather Anglo-Norman historical productions in England which did not extend beyond the beginning of the 14th century. History in the middle ages being heroic, epic, and chivalrous rather than didactic and philosophical, the aristocrats provided the clerics with the material and spirit of its treatment. But as time wore on the latter in their turn enriched French literature with branches that are entirely their own. They began to write in the character of students and scholars, of moralists, caricaturists, educators, dramatists, and professors of religion. Their most important contribution to general literature is the Roman de la Rose, a vast allegorical treatment of the lover's woes and the lover's bliss in the pursuit of the object of his passion. Begun by Guillaume de Lorris, the poem was continued and diverted from its original purpose by Jean de Meun; it became popular throughout Europe in the multitudinous artificially-cultured court circles of the 14th century. It passed into the Dutch, Italian, and English languages. It imparted its character to French literature till the end of the 15th century, was transcribed and printed during 300 years, and stands in an indirect relation to the 'romans' and 'précieux' works of the 17th century. Lyrical poetry has, properly speaking, no cradle of its own within the strict limits of French mediaeval literature, for it was brought thither from a sunnier, warmer, and softer southern air. Italian, Spanish, and the *langue d'oc* were the natural and early vehicles of lyricism in Europe. Of these three languages the last named was the first to bear fruit. There prevailed in Provence some particular rules of etiquette and of good breeding, upheld by a brilliant society in which women held the foremost place. The troubadours in their lyrics held up the mirror to that society and reflected its tastes. When the south had fallen a victim to the bane of persecution and military supremacy extended upon it from the sterner north, the art of the troubadours found in the 13th century a temporary abode in Champagne, Picardy, Flanders, and Artois, whence it passed to Germany, to Italy, to Sicily, to Spain, to Portugal, inspiring everywhere the first lisping attempts of nationalities whose languages have since proved themselves to be, as lyrical instruments, superior to the French.

The 15th century witnesses the linguistic transformation of Old French into Modern French. The last traces of case inflection disappear, the analytic form of language supersedes in all essential parts the half synthetic system. The French mind acquires these qualities of reflection, French thought takes that philosophic turn which distinguishes the idealism of the intellect from the idealism of the imagination. Froissart, in his histories, wields an inquiring as well as a picturesque pen. His successor, Philippe de Comines, the historian of Louis XI., is still more of a moralist and of a politician. Charles d'Orleans, snatching from the perishing troubadours the thread of lyrical poetry, passed it to Villon, who wove into its silk many a coarse hempen filament, till Clement Marot raised French verse to religious solemnity in his translation of the Psalms, preserved its grace in his epistles, and gave it a pathetic ring in his elegies. In the meanwhile the Italian Renaissance was filling with its glory the work of art and of literature. Native and spontaneous literary activity was paling before the light of the revival of learning. With the accession of the house of Valois to the throne we find at once that the spirit of F. has passed away from the old into a new society and a new literature. F. will now receive the lessons of ancient Rome, ancient Greece, and modern Italy before it does again original work and resumes its supremacy in Europe. French society becomes polished, its local provincial centres die out, and culture flourishes in the court of the king. Francis I. is proclaimed the father of letters. The state is organized, there is a general intellectual impulse, women are promoted to the place of honor in social and court life. French officers, sent year after year at the head of French troops to Italy by Charles VIII. and Louis XII., brought back a knowledge and a love of art and letters. Italian architects built mansions for them and palaces for the royal family. Italian painters and sculptors hung pictures and set up statues in their halls. Italian scholars interpreted for them the masterpieces of Roman and Greek literature. No longer mere power or physical prowess, but mind was the object of a gentleman's ambition. It became the fashion at court to show enlightenment by attending the preaching of the Reformers. Francis I. laid the foundation of the Bibliothèque Nationale and of the Collége de France. He, and his sons after him, encouraged artists and scholars. Paris numbered then 500,000 inhabitants, of whom 15,000 were students.

In the general excitement of the Renaissance and the Reformation literature could not but move in the same direction as society at large. Italian comedy ousted the *mystères, sotties,* and *farces;* the imitation of Greek and Latin authors reduced the flow of inspiration in poetry, and burdened it with artificial rhetorical rules and with a mass of ill-advised borrowings from the Latin vocabulary and from the Latin syntax. Ronsard and his Pléiade stood in the van of this movement, which Régnier endeavored to stem, while Rabelais, mixing the new material with the old in an ill-assorted, stupendous mass of cumbersome learning, low jesting, high thinking, and word-rioting, came near being the burlesque Shakespeare of his age, whose energies are best represented in we know not which of the numerous veins running through Gargantua and Pantagruel. No two minds could be more different than those of Rabelais and Montaigne, the great prose writers of the 16th century, yet only the Renaissance could produce either: the first, with his reason driven wild in pursuit of the visions of his imagination; the second, a blithe Greek sage, carrying his wisdom lightly and discoursing as if arm in arm with Plutarch, his model. Rabelais, Montaigne, Calvin, and Descartes, by setting French prose on the basis afforded by the revival of learning, drew to themselves some of the attention then given to Italy. Poetry was rescued from Ronsard's exaggerations by Malherbe only to be tapered down almost out of existence by over-much attention to elegance, refinement, lightness, and style. Looking forward through the spans of time, we find that, divorced from nature and limited to the expression of the social emotions, poetry is poetical with Lafontaine only in his Elegie aux Nymphes de Vaux, with Racine only in the choruses of his tragedies. As for the professed lyric poets of the 17th and 18th centuries, their performance bears the impress of the sterility and rhetoric of their Latin models. J. B. Rousseau, Lefranc de Pompignan, Lebrun, and Pindare are worse sinners in this respect than Racan, Chaulieu, and Parny. Lyricism finds better interpreters in church orators, such as Bossuet (Oraisons Funèbres), Bourdaloue, Massillon, and Fléchier, all of the 17th century. It pervades the glowing pages which love of nature and effusion of sentiment dictated to J. J. Rousseau and Bernardin de St. Pierre in the later part of the 18th: it dwells in the religious fervor of Chateaubriand and in the passionate enthusiasm of Madame de Staël on the threshold of the 19th. André Chénier was the first to restore some soul to poetry, in the pure Greek note which he sang during the horrors of the Revolution.

Such a long eclipse is partly explained by the premature application to literature of standards of taste and of formal criticism. Malherbe subjected his talent to a personal discipline which Boileau consolidated into a set of rules enforced with the lash of satire. Corneille wrote his tragedies early enough to remain comparatively free from this rod, but Racine acknowledged Boileau as his master. The 17th century is in F. the age of authority in literature as in everything else. The French Academy, founded by Richelieu in 1635, to establish positive rules for the French language and to render French speech not only elegant, but also fit to present all arts and all sciences, gave an earnest of its future labors by an endeavor to curb Corneille's waywardness in composition. Public opinion at court and public opinion in town circles —for Paris was becoming a centre of culture and thought, forming together with the court the whole of French society, fell by degrees into line with the Academy and with Boileau. Thus was formed, along with French unity, the unity of French literature, and to this period is ascribed the name classical period, to distinguish it from the period of liberty and individualism ushered in after the Revolution and the Empire, by the rise of liberalism in politics and the return to freedom in the matter of prose and verse composition. As long as town and court moved together in the same direction, the unity of French thought, of French literature, and of French political development remained unimpaired and produced its fruits good and bad. After Corneille's sublimity and his representation, not without some Spanish staginess, of the conflict of duty and passion in heroic human breasts came Racine's polished and courtly expression of the agitations of the heart.

Molière, the greatest French painter of men from life, showed himself in his Tartufe the scourge of hypocrisy; in his Misanthrope he was austere and touching; in the Femmes Savantes and in the Précieuses Ridicules he exposed the false and pedantic erudition of the woman of the period; in the Avare he related the plight of an unconscious miser; playful, withal, castigating with sobriety, ruthlessly just and gently forgiving, uproariously funny, and immensely suggestive, acting his parts himself in the happiest fashion, using the sharpest, tersest, and brightest French. Regnard followed him, but far behind. Then came Destouches, Le Sage, Piron, Gresset, Sedaine without Molière ever having a rival, except perhaps Lafontaine, whose fables, conceived in the same inimitable French vein, are one and all natural or comic little dramas in which an apparently artless exhibition of the ways of animals and things leads to a neat moral applicable to man. Florian followed in his footsteps at a respectful distance. Madame de Sévigné gained a place for letter-writing as a distinctly French art, an accomplishment in which many French women have excelled after her. In contrast to Bossuet's Hebrew-like eloquence and militant ecclesiasticism stood Fénelon, gentle, suave, and versatile, ever healing wounds and pointing a warning finger to dangers ahead. Totally different from either of them had been Pascal, an introspective pessimist oddly placed in the vestibule of an impersonal age, wrestling with doubt, bending the language to his intellectual agony, and planting upon the Jesuits the stigma of his honest, piercing satire. La Rochefoucauld, who wrote his contribution to moral philosophy before La Bruyère, was also a memoir writer, a gift in which Cardinal de Retz, the naturalized Scotsman Hamilton, and the Duc de St. Simon all excelled.

Amid the mistaken foreign and home policy which was striking at the very roots of the nation, French literature offered, toward the end of the long reign of Louis XIV., a spectacle of imposing intellectual force. F. established thereby so well its claim to the leadership of society and literature in Europe that, thanks to a lull in native literary production, as in England, or to a comparatively backward state of culture, as in Germany, or to a paralysis of the national vigor, as in Italy, the French 17th century might seem to protract itself in all these countries even at a time when a total change was passing over French society, and pointing its literature in a new direction. The age of Louis XIV. was, above all things, that of a well balanced literature, the work of men whose nerves are not upset, who are fully satisfied with the work suggested by their situation. Their stock of ideas was adequate to their power of treatment, and nothing came to mar the dignity and gravity with which they approached their subjects. There is a wholesome moral tone underlying their performance, and the kind of repose bred from the illusion that one's work is final. But Louis XIV.'s senility and fanaticism, and after him the license and unscrupulousness of the regent disorganized the court; a larger number of thinking and able men collected in Paris than the service of the state and of the church could occupy. Parisian society, once educated by the court and long led by it, broke away, and violently rebelled against an irksome tutelage. It returned to freedom first, then it welcomed adventurous minds which abandoned [illegible], spiritual, and moral loyalties to swell the ranks of drawing room malcontents, while below them seethed a large class of *intrigants* and schemers recruited in the overgrown establishments of noblemen and courtiers. Literature, from being an art in itself, became subordinate to ideas; by an enormous influx of [illegible] thought it became a vehicle for hitherto unexpressed political, moral, religious, and scientific matter. Till late the disintegration of the old social body remained latent. Still Montesquieu's Lettres Persanes and his Considérations sur la Grandeur et la Décadence des Romains announced plainly enough the advent of social satire, and the application of philosophic method to the study of political history. But his Esprit des Lois by showing the interdependence of physical and moral laws and the conditions to which is subjected the legislator's apparent liberty marks a clear departure from the traditional theories of government.

The chief representative of the spirit of the age, Voltaire, belongs still [illegible] to the times of Louis XIV. His tragedies are classical; his literary criticism is that of Boileau, his poetry is an academic display of wit and sociability; but the remainder of his works form a complete battery in which his tales represent the light artillery and his histories the heavy guns. Combining passion with philosophic acumen, strangely divided between vanity and generosity, the personal friend of kings and the advocate of individual and popular rights, preaching tolerance and openly undermining public respect, deep in prejudice and the enemy of superstition, he showered upon the tottering edifice of French society pamphlets, treatises, letters, discourses, epistles all of them shafts pointed with sarcasm, finely weighted with a touch of plausible learning, and feathered from the wing of his sparkling imagination. He was assisted in his incessant warfare by a host of talented and original thinkers. Sensualistic followers of Locke, like Condillac and Condorcet; combative materialists, like Helvetius and D'Holbach; encyclopedists, headed by Diderot and D'Alembert; earnest moralists like Vauvenargues; writers of novels and plays with a purpose, such as Le Sage and Beaumarchais, or with the object of minute psychological analysis, such as Marivaux and l'Abbé Prévost; naturalists, like Buffon and Bernardin de St. Pierre, showed each in his own department of letters, art, or science, many even in several departments at once, one common spirit and an identical zeal by which all thinkers and writers, often unknown to themselves, worked in concert, as if holding of malice prepense an intellectual Pentecost. The age was too much in earnest for plain comedy; it was too bitter for poetry; Gilbert almost alone wrung a true cry from his heart; Crébillon writes some overwrought tragedies, and Laharpe stands forth as the last critic of the Boileau school.

At this juncture J. J. Rousseau appeared to complete Voltaire. Born in Geneva, where the political institutions toward which F. was moving were partly in existence, early weaned from an atmosphere still nominally Calvinistic, professedly at war with the philosophers, he gave them the support of his persuasive eloquence, passion, imagination, inspiration, enthusiasm, heating in fact their cold intellectualism with an emotional fire that quickened the seed of mischief, and raised the nation's pulse to fever heat, till even Rousseau's voice was lost in the clamor of the Revolution. He broke fresh ground in the science of politics by his Contrat Social, in the art of education by his Émile, in pure literature by his Nouvelle Héloïse, painting a picture of more natural morals, often greatly at variance with morality. An unworthy son of the society of his day, he passed condemnation upon it. In the year after his death the political assemblies began the realization of his ideas. Thus literature, at work among other causes, led straight to the Revolution. The ring of Mirabeau's oratory was heard for a few years above the turmoil in which perished the poet André Chénier.

As long as the ax did execution in F., and as long as Napoleon's sword held sway in Europe, literature did not raise its voice. Madame de Staël drew her inspiration from without, though mentally and emotionally in touch with J. J. Rousseau. She called the attention of F. to the benefit it could derive from the study of independent foreign literature, such as the nascent literature of Germany and the established literature of England. She showed that the poetry of the Renaissance, derived from the ancients, elaborated into formal classicism, burdened with pagan associations, and modernized in Italy and Spain, could not be compared with the hidden, bubbling springs welling forth in the chivalry and cathedrals of the land, and flowing from the lips of the greatest poets out of France.

By doing away with every sort of restriction and privilege the Revolution imparted a new unity to the French nation, immensely developed the function of the middle class, and threw open vast prospects to its hopes and ambitions. Becoming the centre of gravity of the nation, and holding in its hands the reality of power, it re-echoed the ideas of Madame de Staël. Chateaubriand, finding in a return to mediæval ideals the proper food for his imagination and the right colors for his style, unwittingly favored her liberalism. Then Lamartine stepped forth as the lyrical poet long looked for in vain, revealing in his reposeful, tuneful lines, often sad, and ever bathed in a dim religious earnestness, a beautiful and sympathetic side of French poetic sentiment which had never yet found a mouth able to utter it. A whole school of lyric poets followed in Lamartine's footsteps, Alfred de Vigny and Victor de Laprade being among the greatest. Casimir Delavigne is not free from the besetting sin of rhetoric, and Victor Hugo was master of too many instruments besides the lyre to be classed here. His position is that of founder and head of the French romantic school, as the men called themselves who threw off all allegiance to the classical traditions. He philosophized for his followers on romantic esthetics, explaining what relation ugliness bears in art to beauty. He applied his doctrine in a series of dramas, to one of which, Hernani, the romanticists nailed their colors and compelled the public to bow. From 1830 to 1885 Victor Hugo was in all kinds of literature, at first an initiator, then a revered and victorious chief, and during his old age an idolized master. Under his leadership formalism was excluded from the technique of poetry; ingenuity and a free adaptation of rhetorical means to poetical ends taking the place of compulsory standards. In prose style was left similarly to individual initiative; the language being boldly bent to the purpose of the writer, and receiving its molding from the originality and character of his mind. There was no longer a question of imitating set models and complying with fixed precepts. Expression received its form from within. Hence a new, multiple, and often eccentric art, seeking too much after the pictorial and sensational significance of words, a general strain on the resources of language and of literary expression, but a profusion of striking effects, and the transference of the pen of many capabilities belonging properly to the brush, the pencil, or the chisel. Victor Hugo inaugurated thus a new method in literary composition. Taste and wit became of less moment, because literature no longer rested upon society as a whole, but upon the nature of each individual writer.

Romanticism represented three things: a return to ideals mediæval, a recoil from ideals classical, and the awakening of modern France to its own ideals. Victor Hugo embodied all this in his long career. Royalist and Catholic at first, he sang odes to the past; adversary of the Academy and of the Théâtre Français, he gained seats in the first for his followers and the boards of the second for his and their dramas. Then interpreting the inner life of the bourgeoisie, he wrote for them the poetry of their daily musings, of their affections, of their children. Next, led on to liberalism and to the breadth of human charity, he with one hand branded Napoleon III., with the other revealed what gleams of spiritual beauty shine unknown in the hearts of the lowest and poorest, while his imagination wrought into epic poems the history of the world and the destiny of man. Nobody ever did so much with words, and words never did so much for any one. The esthetics of romanticism bore fruit in the transformation of dogmatic criticism into literary history. Sainte-Beuve applied the theory of the new practice with so much success that the critique of art and literature, always a favorite pursuit with the French, but long a cause of weakness, became one of their strongest points, and most beneficial to all literature. With him, Villemain, and Scherer literary history became comparative as well as personal. To attempt an enumeration of Victor Hugo's followers, or of the writers in any given field, would break the proportions of this general survey, besides conveying a wrong impression, for it is a feature of this century that the activity of talent pervades several fields, and expresses itself in verse and in prose almost indifferently. Lamartine, for instance, was an orator and a historian as well as a poet. Victor Hugo was still more discursive. Few men sat down to their work with the intention of deriving their inspiration from the nature of their subject only. Subjects were rather chosen as themes, and their treatment showed a complicated compromise between man and thing. Michelet's history, for instance, is not separable from Michelet. After the first ado of the romantic movement, which immensely broadened the stream of French literature, the old and new floods mixed their waters and ran, as it were, in four principal masses. Poetry became more and more of an art and less and less of a substance, except in Alfred de Musset, who rivalled the finest performance of Lamartine and Victor Hugo without sacrificing his originality to either, sometimes toying with life, sometimes sneering at it, sometimes uttering the cry of heart, disenchanted from vice, crushed in sorrow, and [illegible] in so sweet a melody, that he is the most loved of French poets. Below him stand the Parnassian poets, Leconte de Lisle, Baudelaire, Sully Prudhomme, François Coppée, and, among his minor contemporaries, the satirists Barbier and Barthélémy, Brizeux, the two Deschamps, the ultra-romanticists Gérard de Nerval and Théophile Gautier.

The drama, to which Casimir Delavigne, Alfred de Vigny, and Alexandre Dumas laid stepping-stones for Victor Hugo, fell after him into the hands of the semi-classicist Ponsard, of Augier, Feuillet, Alexandre Dumas fils, and Sardou. The comic stage, occupied by the rapidly-constructed and rapidly-vanishing productions of Scribe, only seldom saw a real comedy. But as a set-off some of the old comic force entered now and then into the romantic drama, and trickled into many novels and romances. These were a genuine growth of the times, and, for variety, artistic treatment, and psychological analysis, they rank high above every novel published before, with the exception of but a few to which they are historically affiliated. Novels are fantastic with Ch. Nodier, historical with Alfred de Vigny, realistic with Mérimée, Balzac, Flaubert, and Daudet, panoramic with Alexandre Dumas the elder, homely with Sandeau. George Sand, possessed like Madame de Staël of almost masculine gifts, and, like her, one of Rousseau's disordered kindred, exhibited in herself and in her books the play of the passions in their natural state, till she poured forth her mellowed ardor in pure idyls of country life. There is but a distant affinity between the 'realism' of some of the preceding writers and the naturalism of the brothers De Goncourt, Zola, Guy de Maupassant, and Paul Bourget. A wave of liberalism in the Roman Catholic Church bore Lamennais, Lacordaire, and Montalembert to oratorical fame, while Renan shone in church history, Cousin and Auguste Comte in philosophy, Taine in scientific psychology. Béranger stood almost alone in having but one speciality. A liberal, though under the spell of the Napoleonic military glory, he raised to an art his turn for penning popular songs. The analytical qualities of the French mind and its power of constructive writing were nowhere better displayed than in the department of history. A. Thierry with fidelity and picturesqueness, Guizot with some heaviness, Thiers with patriotic complacency, Quinet and L. Blanc with too much passion, Michelet with an excess of the poetical faculty, De Tocqueville with breadth and insight, attached their names to some masterly work.

In F. more than in any other country mental power is accompanied by the literary faculty. Hence all science and manner of erudition claims a place in literature. An inquirer going the round of the interests of civilized man would with difficulty find an object of study or a branch of culture in which the French could not offer a model of presentment. Their literature is marked by symmetry and fulness in its successive periods, by continuity in its unity and variety, by evenness in its distribution over the pursuits of man, by regularity in its function toward society, by the amenableness of the people to its influence. Literature is a mightier instrument with them than elsewhere. They quickly respond to it. The susceptibility of the national character, its somewhat feminine eagerness and quickness of perception, which keep society as it were in a continual whirl of integration and disintegration, and ideas in perpetual revolution, are the very endowments which make their literature the most uniformly readable of all. With a little less of the mind quality about them, they would be happier and wiser, perhaps, but Europe would be duller and poorer.

The history of the French language may be studied in the dictionaries of Diez, Scheler, Brachet, Littré and Godefroy; its grammar in such books as those by Diez, Bartsch, Brachet, and Gaston Paris. The last commenced his Manuel d'ancien Français (11th-14th century), including a summary grammar, selection of texts, and glossary, with an admirable volume La Littérature Française au Moyen Age (1888). Many invaluable contributions to French philology have appeared in the pages of Romania (founded at Paris in 1872 and edited by Paul Meyer and Gaston Paris) and of the Zeitschrift für Romanische Philologie (founded at Halle in 1877, and edited by G. Gröber). The Société des Anciens Textes has issued many texts since its foundation in 1875; the student may also be directed to Dr Wendelin Foerster's Altfranzösische Bibliothek (i.-xi., Heilbronn, 1881-88), and to Suchier's Bibliotheca Normannica (3 vols., Halle, 1879-85).

For the history of the literature the first work to be named is the monumental and magistral Histoire littéraire de la France, begun by the Benedictines and continued by members of the Institute (i.-xxx., 1733-1888), but not yet beyond the middle ages. More accessible for mediæval times are the works of J. J. Ampère, Léon Gautier, Gidel, Albert, and Aubertin. For later times one of the best books is Godefroy's still unfinished Histoire de la Litt. Franç. depuis le 16ème Siècle jusqu'à nos jours (9 vols., 1859-81). Sainte-Beuve, and Darmesteter and Hatzfeld have devoted special study to the 16th century.

For the 17th century may be named the works by Voltaire, Demogeot, Laharpe, Sainte-Beuve, V. Cousin, and Fournel; for the 18th, Barante, Villemain, Bersot, Albert, John Morley, E. and J. de Goncourt; for the Revolution, J. Chénier, Géruzez, and the works of Maron, G. Merlet, and the brothers De Goncourt.

For the 19th century and modern times may be named the special books by Charpentier, Merlet, and critical essays on contemporary writers by Vinet, Sainte-Beuve, Villemain, Montégut, Prévost-Paradol, A. Pontmartin, Caro, Taine, Scherer, Paul de St. Victor, G. Planche, H. Etienne, St. René Taillandier, Janin, Saint-Marc-Girardin, Lemaitre, Bourget, Pollock, Saintsbury, and Henry James.

Good manuals covering the whole ground are the books by Nisard, Demogeot, and Géruzez, and by Van Laun and G. Saintsbury in English. Walter Besant's Early French Poets and his French Humorists are also serviceable English books. The reader is referred also to the articles on the chief French writers in this Encyclopedia, as well as to CHANSONS DE GESTES, DRAMA, FABLIAUX, NOVELS, and the like.

The Boulangist craze was, after all, of but short duration. General Boulanger had been a diligent secretary of war, and had endeared himself to the private soldier by his anxious care for his comfort. Nothing was more natural than that the *brav' général* should be fixed upon as the heaven-born leader of the *revanche*, and that his very care for detail should be hailed as a promise that the equipment of the army of revenge should be as perfect as that of the armies of 1870 had been miserably defective.

But the threat of arrest drove Boulanger into exile, and his cause wilted under the laughter of the French. His final theatrical suicide on his mistress' grave redeemed to sentiment a career already condemned by judgment; but the verdict of posterity on Boulanger will be that he was of far too small calibre to figure as the *fin du siècle* man on horseback.

The removal of the restrictions on the importation of American hog products, 1891, Nov. 2, and their admission after inspection under a duty of 25 francs the 100 kilos, have been of great importance to F., and in a degree to the United States.

The isolation of F. in the face of the Dreibund has been profoundly discouraging to her, and the reaction caused by the recent *rapprochement* between her and Russia is a remarkable proof of the intensity of her feelings in the matter.

The almost irritable firmness of the tone of F. in connection with Egyptian and Moroccan matters within the last month or two shows how greatly she feels strengthened by the supposed alliance with Russia, but it is quite possible that F. is interpreting as a formal alliance what is after all only a passing phase of good feeling on the part of the Czar.

The exceeding sensitiveness of F. just now is but a symptom of the morbid irritability of Europe, and is ominous of the outbreak of the fury of war.

GEORGIA, *jawr'-jĭ-a:* the name formerly applied to the central portion of what is now Russian Transcaucasia (q.v.), bounded by the Caucasian mountains on the n. and by the Armenian mountains on the s. The Russian name is Gruzia: the Persian Gurjestan, from which form the name G. probably arose, it being perhaps a corruption of Guria, the name of one of the w. provinces. The early history of the Georgians, who pretented to trace their origin to Thargamos, a great grandson of Japhet, is wrapped in fable. Mtskhethos, who is said to have built Mtsketha, the ancient capital of the country, situated near Tiflis, but now reduced to a mere village, plays a prominent part in it. We have also to deal with legend in the story of the Argonauts and Medea, who is said to have been born at Kutais. The Georgians first appear in authentic history in the time of Alexander the Great, to whom they submitted. After the death of Alexander in 323 B.C. they gained their independence under Pharnavis (302-237 B.C.). With Pharnavis begins the series of the kings (a title rendered in Georgian by the word *mepho*), who, under various dynasties, ruled the country almost uninterruptedly for more than 2,000 years. In 265 A.D. the Sassanian dynasty ascended the throne in the person of King Marian, and ended with Bakour III. in 570. Toward the close of the 4th cent. Christianity was introduced by the preaching of St. Nina, and in 469 Vakhtang built the city of Tiflis (Tbilisi), so called from the hot springs found there. Soon after the death of Mohammed his followers entered the country and forced many of the inhabitants to embrace Islam. The Sassanides were succeeded by the powerful dynasty of the Bagratides, one of whom, Bagrat III. (980-1008), extended his dominions from the Black sea to the Caspian; but during the 11th cent. the Georgians twice suffered from an invasion of the Seljuks, who committed great devastations.

The country reached the height of its glory in the reign of Queen Thamar or Tamara (1148-1212), the daughter of George III. With her marriage to the son of the Russian prince, Andrew Bogolubski, may be said to begin the connection between Russia and G. The dominions of Tamara were more extensive than those of any other native sovereign, and her court was graced by the presence of many men of letters. But evil days were in store for G. In 1220-2 we hear of Mongolian invasions, and Tiflis was harried with fire and sword. Toward the end of the 14th cent. the country fell into the hands of Timour, who, however, was driven from it in 1405 by George VII. One of George's successors, Alexander (1413-42), committed the fatal error of dividing his kingdom between his three sons. The general history of G. now separates into two parts: that of the eastern states, Karthli and Kakheth, and that of the western states including Imereth, Mingrelia, and Guria. From the 16th to the 18th cents. the Georgians suffered grievously from the Persians. In 1618 Shah Abbas invaded the country, and Teimuraz I. applied for help to the Czar Michael; in 1638 Levan, king of Mingrelia, took the oath of allegiance to Alexis; it was only from their co-religionists that the Georgians could hope for succor in their hour of need. They also suffered from the encroachments of the Turks. In 1795 the savage Aga Mohammed Shah invaded G. and levelled Tiflis to the ground, carrying away a great number of captives. The aged king, Heraclius II., an able sovereign, seeing that all resistance was in vain fled to the mountains, where he soon afterward died. His son, George XIII., resigned the crown in favor of Paul, emperor of Russia, in 1799, but his brother Alexander did not acquiesce in this arrangement and held out for some time, but was defeated in a battle on the banks of the Ior. George died in 1800, and in the following year Alexander of Russia formally annexed the country. In 1810 the prince of Imereth attempted a revolt, which was quickly suppressed. Guria was finally united with Russia in 1829.

The former kingdom of G. is mainly included in the governments of Kutais, Tiflis, and Elizabethpol. G. proper now forms the government of Tiflis, and covers [illegible] sq. m.; it is divided into the districts Dushett, Telav, Signakh, Gori, and Akhaltzikh. The district is very fertile, being abundantly productive of cereals, wine, especially the Kakhetian, honey and silk, of [illegible], while the mountains teem with mineral wealth as yet but little utilized. The domestic animals are the mule, ass, ox, camel, buffalo, goat, and hog. The wild animals are the bear, wolf, hyena, ibex, fox, antelope, wild boar, and wild goat. The game birds are the pheasant, partridge, quail, and woodcock.

Fish are abundant, including sturgeon, trout, carp, perch, salmon, and the oragoula, resembling the salmon.

Tiflis is the capital town and is connected by railroad with Poti, on the Black sea.

The Georgians belong to the Kartveli stock, forming the southern group of Caucasian peoples. Their numbers have been variously estimated. Some [illegible] about [illegible], but Von Erckert (Der Kaukasus Völker, Leipz., [illegible]), gives the following calculation, as based in the main on the last census of 1881:

Georgians (in the restricted sense of the term)	350,000
Imeretians and Gurians	480,000
Adcharians and Lazes	20,000
Pshavs, living in the mountains	9,000
Tushes " "	6,000
Khevsurs " "	7,000
Mingrelians	215,000
Suanetians	13,000
	1,100,000

To this work is appended an excellent ethnological map. The Georgians and their congeners are of the Caucasian or Fair race (as opposed to the Mongolian or Yellow race). They are celebrated for their beauty, and under the Mohammedan rule the white slaves of western Asia and of Egypt were mostly taken from among them and the Circassians. To the [illegible] of Russia the disgraceful traffic was put an end to by [illegible] in [illegible]. Though [illegible] powerful advantages, the long continued oppression [illegible] subjected has had its effect upon their character. [illegible] the supremacy and brutal [illegible], they have as a nation [illegible] according to the doctrines of the [illegible] and the country of the Lazes [illegible] were forced by persecution to embrace Islam, and in these districts the ruins of many churches [illegible]. The southern Caucasians, with [illegible] climate are somewhat [illegible] singing and music.

The four [illegible] Mingrelian, Suanetian and Lazian [illegible] group stand to each other [illegible] dialects, although they [illegible] has greatly [illegible]. Georgian alone of the four has a literature, if we except [illegible]. These languages are of the agglutinative [illegible] which incorporate [illegible] suffixes. In their structure they [illegible] between these two [illegible] vocabularies have no word in common.

[illegible] *Khutsuri*, or ecclesiastical, and [illegible] in the religious books. [illegible] are given of their origin. [illegible] alphabet; the [illegible] a very pretty character, with many rounded letters, which [illegible] somewhat resemble Burmese. Georgian literature is by no means [illegible]. Prof. Tsagarelli gives a list of 946 Georgian MSS. known [illegible]: they are preserved in monasteries at Jerusalem, on Mt. [illegible] of the Society for the [illegible] Besides these there [illegible] in private [illegible] to [illegible] others. [illegible] can be traced back, the literature begins about the 5th [illegible] the Fathers and [illegible] including [illegible] and Josephus. To the 7th cent. bel[illegible] Psalter [illegible] there is a complete manuscript of the [illegible] the 10th, [illegible] Mt. Athos. The great literary development, however, [illegible] especially in [illegible] the popular [illegible] a poem [illegible] love of Avtandil for Tinatina, daughter of the [illegible] and that of Tariel for Nestan Daredjan, daughter of [illegible] Parsadan. It is a richly colored work, as if written [illegible] Tasso, and enjoys great popularity among the [illegible] it is written in quatrains—having passed into proverbs. The author, Shota Rustaveli, was the glory of the reign of Queen Tamara, and is said to have died at Jerusalem as a monk in 1215. A handsome illustrated edition of this work appeared at Tiflis in 1888. Of Shavteli, another poet of the time who also enjoyed considerable reputation, only a few odes have come down. Chakhrakhadze composed a long and rather tedious poem in honor of the famous queen; prose tales were written by Sarkis of Tmogvi, the most celebrated being the Visramiani, and a poem by Mose of Khoni, called Daredjaniani. Now that the Georgians have been secured by Russian protection from their Moslem foes, they are busy in studying their old literature and editing their MSS. Somewhere about the same time as these authors flourished was begun the Georgian chronicle, called Kartlis Tskhovreba, or life of Georgia, the first part of which is anonymous, and carries the history from the earliest times to the year 1224; a continuation, also anonymous, brings it down to the year 1445.

But this brilliant period was destined to a temporary eclipse; during the 14th and the next two centuries the country was a prey to Mongols, Tartars, Persians, and Turks; the cities were devastated, many of the inhabitants were carried into captivity, and valuable MSS. were lost or destroyed. In the 17th cent., however, matters began to mend. Toward the close flourished Saba Sulkhan Orbeliani, one of the most learned men of his time, who visited Paris, where he was well received by Louis XIV., and Rome. To him his countrymen are indebted for the first dictionary of their language, called in oriental style, The Bouquet of Words; it was edited at Tiflis in 1884. His also was the popular work, The Book of Wisdom and Falsehood (Tsigni Sibrdzne-sitsruisa), a collection of amusing fables and apologues, some of his own invention, and others drawn from the stores of Georgian and other oriental folk-tales. A Russian translation of this interesting book has been published by Prof. Tsagarelli of St. Petersburg.

In 1709 King Vakhtang VI. established a printing press at Tiflis. One of the works which appeared was The Man in the Panther's Skin, to which he added a curious mystical commentary, giving the book a religious meaning, perhaps to rehabilitate it among the clergy, who regarded it as a profane work. Vakhtang also labored at a translation of the Kalilah and Damnah, in which he was assisted by Sulkhan Orbeliani (edited at Tiflis in 1886). The king, thinking his country lost on account of a fresh invasion of the Turks, emigrated to Russia with many Georgian families, and in consequence of their presence in the country the great Georgian Bible was published at Moscow in 1743. To this century also belong the Davitiani, a poem, by Guramishvili, and the first Georgian grammar, by the Catholicos (Primate) Anthony, besides other works. Vakhusht, the son of Vakhtang, continued the chronicle of his country till 1745 and wrote a geographical description of it, a work of great value. Since the peaceful settlement of G. under the Russians, literature has been greatly developed. The fine lyric poets, Alexander Chavchavadze (whose daughter married Griboedov, the Russian dramatist), Raphael Eristavi, Nicholas Baratashvili, and Akaki Tsereteli, have appeared. The most conspicuous literary man of Tiflis at the present time is Prince Ilya Chavchavadze, author of some of the most graceful lyrics in the language, and some spirited tales in which he has satirized the luxury and other weaknesses of his countrymen. He is editor of the Georgian literary and political daily journal, Iveria. Some of the plays of Shakespeare, among others Hamlet and Othello, have been translated by Prince Machabeli. Altogether, Georgian literature may be said to be in a flourishing condition.

The pioneer in the study of Georgian history and philology was Brosset, who published Éléments de la Langue Géorgienne (Paris, 1837), an elaborate edition of the Georgian Chronicle (St. Petersburg, 1849–58), and many other works. [illegible] St. Petersburg, 1840, and [illegible] (St. Petersburg, [illegible]), Prof. A. Tsagareli's [illegible] (published in Russian; Notices of the Monuments of Georgian Literature, part i., St. Petersburg, 1886), and [illegible] (St. Petersburg, 1880), and A. Leist's Georgische Dichter verdeutscht ([illegible] 1887), may be mentioned. See also Wardrop, The Kingdom of Georgia (1888).

GERMANY, *jer'ma-ni* (from Lat. *Germania*): is the English name of the country which the natives call Deutchland, and the French L'Allemagne (see ALEMANNI). The word is sometimes used to denote the whole area of the European continent within which the Germanic race and language are dominant. In this broad sense it includes besides G. proper, parts of Austria, Switzerland, and perhaps even of the Netherlands; but in the present article the name is to be understood as denoting the existing Germanic empire, of which Prussia is the head. G. occupies the central portions of Europe, and extends 5° 52' to 22° 53' e. long., and from 47° 16' to 55° 54' n. lat. It is bounded on the n. by the German ocean, the Danish peninsula, and the Baltic; on the e. by Russia and Austria; on the s. by Austria and Switzerland; and on the w. by France, Belgium, and the Netherlands. The population in 1871 was 41,058,792; in 1880, 45,234,061; in 1885, 46,855,704. Its area is 211,168 sq. m., or about one-sixteenth of that of all Europe—slightly larger than France, but not twice as large as Great Britain and Ireland. The coast line measures about 950 miles.

Germany is composed of a federation of twenty-five states, with one common imperial province, the names of which, with their areas and populations in 1885, are given in the following list. They are elsewhere treated of in special articles, under their respective names.

States.	Area in sq. m.	Pop. in 1885.
KINGDOMS.		
1 Prussia	136,073	28,318,470
2 Bavaria	29,632	5,420,199
3 Saxony	5,856	3,182,003
4 Württemberg	7,619	1,995,185
GRAND DUCHIES.		
5 Baden	5,891	1,601,255
6 Hesse	3,000	956,611
7 Mecklenburg-Schwerin	5,197	575,152
8 Saxe-Weimar	1,404	313,946
9 Mecklenburg-Strelitz	1,144	98,371
10 Oldenburg	2,508	341,525
DUCHIES.		
11 Brunswick	1,441	372,452
12 Saxe-Meiningen	961	214,884
13 Saxe-Altenburg	517	161,460
14 Saxe-Coburg-Gotha	765	198,829
15 Anhalt	917	248,166
PRINCIPALITIES.		
16 Schwarzburg-Sondershausen	337	73,606
17 Schwarzburg-Rudolstadt	367	83,836
18 Waldeck	438	56,575
19 Reuss-Greiz	123	55,904
20 Reuss-Schleiz	323	110,598
21 Schaumburg-Lippe	133	37,204
22 Lippe-Detmold	475	123,212
FREE-TOWNS.		
23. Lübeck	116	67,658
24 Bremen	100	165,628
25 Hamburg	160	518,620
REICHSLAND—		
26 Alsace-Lorraine	5,668	1,564,355
	211,168	46,855,704

These several sovereign states vary enormously in area and influence. Thus, while Prussia alone exceeds the British Isles in area, Bavaria is nearly as large as Scotland, Württemberg is larger than Wales, and Baden and Saxony [illegible] to Yorkshire. Waldeck is about equal to Bedford, and Reuss-Greiz is smaller than Rutland, the smallest English county. The Duke of Sutherland's estates ([illegible] sq. m.) are [illegible] than are Mecklenburg-Strelitz, or [illegible] in size of the German states. The Duke of Buccleuch's Scottish estates ([illegible] sq. m.) exceed in area Saxe-Altenburg or any of the eleven smaller states.

In 1885 Berlin, the capital of the empire, had 1,315,287 inhabitants; Hamburg, [illegible]; Breslau, [illegible]; Munich, [illegible]; Dresden, 246,086; Leipzig, [illegible]. There were [illegible] towns with a population of above [illegible]; [illegible] between 20,000 and 100,000, [illegible] between 5,000 and 20,000, and 1,372 between 2,000 and 5,000.

Besides the political divisions above mentioned, there are certain distinctive appellations applied to different parts of G. which have been derived either from the names and settlements of the ancient German tribes, or from the circles and other great subdivisions of the old empire. Thus, the name of 'Swabia' is still applied in common parlance to the district embracing the greater part of Würtemberg, s. Baden, s.w. Bavaria, and Hohenzollern; 'Franconia,' to the main districts of Bavaria, Schweinfurt, and Würzburg; 'the Palatinate,' to Rhenish Bavaria and the n. of Baden; 'the Rhineland,' to portions of Baden, Rhenish Prussia, Bavaria, Hesse Darmstadt, and Nassau; 'Voightland,' to the high ground between Hof and Plauen; 'Thuringia,' to the countries lying between the Upper Saale and the Werra, as Saxe Weimar, etc.; 'Lusatia,' to the e. part of Saxony; 'East Friesland,' to the country between the Lower Weser and Ems; and 'Westphalia,' to the district extending between Lower Saxony, the Netherlands, Thuringia, and Hesse, to German ocean. The four Saxon duchies and the four Schwarzburg and Reuss principalities are frequently grouped together as the 'Thuringian States.'

Physical Character. G. presents two very distinct physical formations. (1) A range of high tableland, occupying the centre and southern parts of the country, interspersed with numerous ranges and groups of mountains, the most important of which are the Harz and Teutoburgerwald, in the n.; the Taunus, Thuringerwald, Erzgebirge and Riesengebirge, in the middle; and the Black Forest (Schwarzwald), Rauhe Alb, and Bavarian Alps in the s.; and containing an area, including Alsace and Lorraine, of [illegible] sq. m. The Brocken is 3,740 ft. high; the Vosges reach [illegible]; the Feldberg in the Black Forest is 4,903; and the Zugspitz in the Noric Alps of Bavaria, the highest peak in Germany, is [illegible] ft. in height. (2) A vast sandy plain, which extends from the centre of the empire n., to the German ocean, and including Schleswig-Holstein, contains an area of about [illegible] sq. m. This great plain, stretching from the Russian frontier on the e., to the Netherlands on the w., is varied by two terrace-like elevations. The one stretches from the Vistula into Mecklenburg, at no great distance from the coast of the Baltic, and has a mean elevation of [illegible] to [illegible] ft. rising in one point near Danzig to 1,092 ft.; the other line of elevations begins in Silesia and terminates in the Lüneburg Heath in Hanover, its course being marked by several summits from [illegible] to [illegible] ft. in height. A large portion of the plain is occupied by sandy tracts interspersed with deposits of peat, but other parts are moderately fertile, and admit of successful cultivation.

The surface of G. may be regarded as belonging to three drainage basins. The Danube, from its source in the Black Forest to the frontiers of Austria, belongs to G., and through its channel the waters of the greater part of Bavaria are poured into the Black Sea. Its principal affluents are the Iller, Lech, Isar, and Inn on the right; [illegible] and Regen on the left. By far the greater part of the surface of the empire has a northern slope, and belongs partly to the basin of the North sea, partly to that of the Baltic. The [illegible] North sea are the Rhine [illegible] Neckar, Main, Lahn, Sieg, Wupper, [illegible] Ill and Moselle on the left; the Weser, [illegible] and the Elbe (q.v.) with [illegible]. Into the Baltic flow the Oder, [illegible] Neisse and Bober; the Vistula, [illegible] tributaries the Narew, [illegible].

The [illegible] are extensive, especially in the n. plain. The most important of the numerous canals which [illegible] canal ([illegible] m. [illegible] opens a [illegible] ocean the [illegible] canals in Brandenburg [illegible] the Havel the [illegible] German ocean, and [illegible] and Rhone ([illegible] m. [illegible] The North sea and Baltic canal, from Brunsbüttel at the mouth of the Elbe to Kiel, begun in 1887 and to be finished in 1895, is intended chiefly for warships. Numerous [illegible] Bavaria, and in the [illegible] great size. The [illegible] at the mouths of great rivers, so curiously landlocked as to practically form huge lagoons or coast lakes. The chief are the Stettiner Haff, the Frische Haff at Königsberg, and the Kurische Haff at Memel. G. abounds in swamps and marsh lands, which are especially numerous in the low n. districts. Its mineral springs occur principally in Nassau, Würtemberg, Baden, Bavaria and Rhenish Prussia. Many of these springs have retained their high reputation from the earliest ages.

Geology. The great plain of n. G. consists of strata of the same age as the Tertiary strata of the Paris basin, covered with very recent sand and mud. Newer Tertiary beds occupy the river basin of the Rhine n. from Mainz; they consist of fine light colored loam, and contain the bones of the mammoth, rhinoceros, and other contemporaneous mammals. Erratics are scattered over the n. of G. The whole district in the center of G., from the Danube n. to Hanover, consists of secondary strata. The rocks of the Trias period are best known in G., the typical rocks of Bunter Sandstein, Muschelkalk and Keuper being developed here so as to justify the name Trias. The Trias is highly fossiliferous, abounding especially in marine shells, and containing several genera of remarkable labyrinthodont saurians. Jurassic rocks occur in c. G.; at Hanover they consist of clays and marl, with beds of sandstone and limestone, containing coal and ironstone of such value that they have been extensively wrought. Intruded igneous rocks have tilted the beds of the Cretaceous strata in some districts to a nearly vertical position, and have metamorphosed them into crystalline marbles and siliceous sandstones.

Of the Palaeozoic rocks, the Carboniferous strata are almost entirely absent from G. The coal obtained in the country is from rocks of a later age. True, coal beds are found in Rhenish Prussia. The sedimentary rocks of the Harz mountains are chiefly Devonian; to the s., near Harzgerode, they are Upper Silurian. They are all greatly dislocated by granite and other intrusive rocks. The Harz mountains are surrounded by a zone of Permian rocks. The stratified rocks of the Thüringerwald are also Devonian, resting on Lower Silurian strata, the lower portion of which is highly metamorphosed into quartzose schists; the remainder consists of graywacke, slate and sandstone, with limestone and alum slates. There are numerous fucoid and annelid impressions in the older beds, and graptolites, orthoceratites, and trilobites in the newer. The basaltic rocks, trachytes, and other volcanic products are largely developed in the Eifel, Siebengebirge, Westerwald, Vogels, Rhöngebirge and other mountain systems of central Germany.

Climate. The climate of G. presents less diversity than a first glance at the map might lead one to infer, for the greater heats of the more s. latitudes are considerably modified by the hilly character of the country in those parts, while the cold of the n. plains is mitigated by their vicinity to the ocean. The average decrease in the mean temperature is, in going from s. to n., about 1° Fahr. for every 52 m., and in going from w. to e. about 1° Fahr. for every 42 m. The line of perpetual snow varies from 5,500 to 8,000 ft. above the level of the sea. The [illegible] rainfall is about [illegible] a year. The rainfall is heaviest on the coast and on the mountains, least in Silesia, on the Danube at Sigmaringen, in Rhenish Prussia and at Wustrow in Mecklenburg. The rainfall in the Upper Harz reaches 66 in. The difference between the greatest heat and the greatest cold is about 140° Fahr. January is the coldest and July the warmest month. The following table shows the mean annual records of the temperature at different points of the continent.

	Annual mean.	Summer.	Winter.
Hamburg	47° Fahr.	64° Fahr.	30° Fahr.
Dresden	48	6[illegible]	29
Frankfort-on-the-Main	48.5	66	31
Berlin	46.5	66	27
[illegible]	48	63	33
Königsberg	43	62	24

Products. The mineral products of G. are very rich and varied, and their exportation forms a most important industry. The chief mining and smelting districts are in Silesia, on the lower Rhine, in the Upper Harz and in Saxony. Silver is obtained in the Upper Harz and Saxony. Iron is widely distributed in various localities, especially in Upper Silesia and in Rhenish Westphalia. Alsace and Lorraine contain a great part of [illegible] which stretches into France and Luxemburg. The iron of the Thüringerwald is fine, though not abundant. The chief coal fields are in Silesia.

Westphalia (on the Ruhr), and Saxony—the first containing the largest coal field in Europe. Prussia yields nearly one-half of the zinc annually produced in the world. Lead is found in the Harz, in other parts of Prussia, and in Saxony. A little copper is mined at Mansfeld. Tin and tungsten are yielded by the Erzgebirge; manganese at Weisbaden; quicksilver in Westphalia; antimony in Thuringia. Salt is produced at Halle, Stassfürt, and other parts of Prussia. G. is rich in clays of all kinds, from the finest to the coarsest; the porcelain of Meissen, the pottery of Thuringia, and the glass of Silesia and Bavaria are celebrated. Building stone is well distributed; marble, alabaster, slates, and lithographic stones also occur; and cobalt, arsenic, sulphur, saltpetre, alum, gypsum, bismuth, pumice-stone, Tripoli slate, kaolin, emery, ochre, and vitriol are all among the exports of G. The following table shows the production of the five years 1882-6, with the yearly average, and the produce and value for 1887, of the chief minerals of Germany (including the duchy of Luxemburg):

	1882-6. Tons.	Yearly Average. Tons.	Produce in 1887. Tons.	Value in 1887.
Anthracite	281,672,500	56,334,500	60,334,000	$577,769,250
Lignite	73,620,300	14,724,060	15,898,600	10,050,250
Salt	7,051,700	1,410,340	1,485,500	3,677,000
Iron ore	43,669,300	8,733,860	9,351,100	8,501,250
Zinc ore	3,390,300	678,060	900,700	2,505,500
Lead ore	826,700	165,340	157,600	3,980,750
Copper ore	2,890,100	578,020	507,600	3,698,000
Gold and silver ore	119,300	23,860	25,700	1,044,500
Vitriol, etc.	748,400	149,680	101,700	194,000
Other minerals	369,000	73,800	110,500	841,000
Total	414,357600	82,871,520	88,873,000	$612,201,500

The vegetable products comprise a very large proportion of the European flora. All the ordinary cereals are extensively cultivated in the n., but in 1888 the value of the wheat, barley, oats, and rye imported exceeded the value of that exported by £2,261,700. The export of potatoes exceeded the import by £423,400. Hemp and flax, madder, woad, and saffron grow well in the central districts, where the vine, the cultivation of which extends in suitable localities as far n. as 51°, is brought to great perfection. The best wine-producing districts are the valleys of the Danube, Rhine, Main, Neckar, and Moselle, which are, moreover, generally noted for the excellence of their fruits and vegetables. The best tobacco is grown on the upper Rhine, on the Neckar, and in Alsace, but inferior qualities are largely produced elsewhere. The hops of Bavaria have a high reputation, and the chicory grown in that country, and in the district between the Elbe and Weser, is used all over Europe as a substitute for coffee. Magdeburg is the centre of a large beetroot-growing industry. According to the survey of 1883, corrected for 1887, 48.6 per cent. (65,770,920 acres) of the entire area of the empire was given up to arable land, garden land, and vineyards. Anhalt had the highest proportion of such land, and, excluding the domains of the free towns, Oldenburg had the lowest. About 2[illegible] per cent. ([illegible] acres) was occupied by [illegible] meadows, and [illegible] Oldenburg containing the greatest proportion and Saxe-Coburg-Gotha the lowest. The chief crops in 1887 were meadow-hay, 14,[illegible] acres; rye, 14,[illegible] acres; oats, 9,525,[illegible] acres; potatoes, [illegible] acres; wheat, 4,[illegible] acres; barley, [illegible] acres; and spelt, [illegible] acres. In 1887 tobacco occupied 53,665 acres; in 1881-2, 68,120 acres. Vines covered 3[illegible],523 acres in 1887, and yielded [illegible] gallons of wine. The most extensive forests are found in [illegible] G., while the deficiency of wood in the n.w. parts of the country is to some degree met by the abundance of turf. G. in 1883 had [illegible] acres, or [illegible] per cent. of its area, in woods and forests. Saxe-[illegible] had the highest proportion of area devoted to forest, and, excluding the free towns, Oldenburg had the lowest. The greatest forests of firs and red pines are in the Black Forest, Upper Harz, [illegible], and Riesengebirge; beech in Lower Harz and [illegible] Bavaria, Franconia, and [illegible] oaks [illegible] Lower Rhine, Westphalia, Odenwald, and Upper Silesia).

Germany has long been noted for the good breed of horses raised in the n.; Saxony, Silesia, and Brandenburg have an equal reputation for their sheep and the fine quality of the wool which they yield, and the rich alluvial flats of Mecklenberg and Hanover are celebrated for their cattle. The forests of northern and central G. abound in small game of various kinds; and a few still shelter wild boars. The Bavarian Alps afford shelter to the larger animals, as the chamois, the red deer, and wild goat, the fox and marten. Wolves are still found in Bavaria, the e. provinces of Prussia, and in Lorraine. The bear is now extinct, and the beaver nearly so. In all the plains in the n. storks, wild geese, and ducks are abundant. Among the fishes of G. the most generally distributed are carp, salmon, trout, and eels; the rivers contain also crayfish, pearl bearing mussels, and leeches. The oyster, herring, and cod fisheries constitute important branches of industry on the German shores of the Baltic and North seas. G. stands next to Great Britain in regard to the care and success with which its agricultural, mining, and other natural capabilities have been cultivated. All the German states, and especially Prussia, Saxony and Bavaria, encourage agriculture, and have endeavored, by the establishment of agricultural colleges and exhibitions, to diffuse among the people a knowledge of recent scientific appliances. Forestry receives almost as much attention in G. as agriculture; and, like the latter is elevated to the rank of a science. The larger woods and forests in most of the states belong to the government, and are under the care of special boards of management, which exercise the right of supervision and control over all forest lands, whether public or private.

Manufactures.—The oldest and most important of the German industrial arts are the manufactures of linen and woolen goods. The chief localities for the cultivation and preparation of flax, and the weaving of linen fabrics, are the mountain valleys of Silesia, Lusatia, Westphalia, and Saxony (for thread-laces); while cotton fabrics are principally made in Rhenish Prussia and Saxony. The same districts, together with Pomerania, Bavaria, Alsace, Würtemberg, and Baden, manufacture the choicest woolen fabrics, including damasks and carpets. The silk industry has its central point in Rhenish Prussia, with a special development in the district of Düsseldorf. G. rivals France more keenly in the production of satins than in that of heavier all-silk goods. Lace-spinning is carried on in Brunswick, at Meissen, and at Bonn; thread is manufactured in Saxony, Silesia, and the Rhine provinces; and hosiery is most largely produced in Saxony and Thuringia. The making of toys and wooden clocks, and wood-carving, which may be regarded as almost a speciality of German industry, flourish in the hilly districts of Saxony, Bavaria and the Black Forest. Paper is made chiefly in the districts of Aix la Chapelle, Arnsberg, Liegnitz, and in Saxony. Tanning, especially in the s. w., is an ancient German industry. The best iron and steel manufacturers belong to Silesia, Hanover, and Saxony; in 188[illegible], [illegible]24,000 tons of iron, representing a value of $[illegible], were handled in the foundries of G. Silesia probably possesses the finest glass manufactories, but those of Bavaria are also important, while Saxony and Prussia stand preeminent for the excellence of their china and earthenware. Augsburg and Nuremberg dispute with Munich and Berlin the title to preeminence in silver, gold and jewelry work, and in the manufacture of philosophical and musical instruments, while Leipzig and Munich claim the first rank for type-founding, printing and lithography. The leading cities of n. G. nearly monopolize the entire business connected with the preparation of tobacco, snuff, etc., the distillation of spirits from the potato and other roots, and the manufacture of beet-root sugar; while vinegar and oils are prepared almost exclusively in c. and s. G. In 188[illegible], [illegible] gals. of beer were brewed in the German empire, the chief producing states being Prussia, 477,138,290 gals., and Bavaria, [illegible] gals. The annual consumption per head of the population is [illegible]. According to the industrial census of [illegible] the number of persons in G. engaged in manufacture and [illegible] was [illegible]788. The following figures showing the distribution of these [illegible] afford a view of the comparative importance of the various [illegible]: Clothing, washing, etc., 1,334,007; building and related [illegible]; [illegible]; textile industries, [illegible]; [illegible]; [illegible] 521,6[illegible]; postal [illegible] and refreshment, 279,451; industries [illegible] paper and leather working, [illegible]; [illegible] printing etc., [illegible]; [illegible]. Besides these, [illegible] were [illegible] in forestry and hunting, 55,168 in horticulture, and [illegible] in fishing.

Commerce and Shipping. The multiplicity of small states into which the German land was long broken up opposed great obstacles to the development of commerce; but the difficulty was to some extent obviated by the establishment of the Zollverein (q.v.), or customs and trade confederation, and partly also by the absorption of several of the smaller states by Prussia. In 1871 a Zoll und Handels Gebiet (customs and trade territory) was formed in G., including Luxemburg (1,010 sq.m.; 213,283 inhabitants in 1885), and the Austrian district of Jungholz (112 inhabitants), but excluding Hamburg, Bremen, and parts of Oldenburg, Prussia, and Baden (together 140 sq.m.; 754,705 inhabitants). On 1888, Oct. 15, however, all these districts entered the union, with the exception of the Baden territory (4,054 inhabitants), and part of the old free port of Hamburg (172 inhabitants). The old Zollverein parliament is represented by the reichstag, and the Zollverein council by the bundesrath, which appoints three permanent committees—for finance, for excise and customs, and for trade. The revenues of the union are derived from customs duties from imports, and from excise duties on tobacco, salt, beet root sugar, brandy, malt, etc., and are divided among the different states according to the population.

The following table shows the exports of home produce and the imports for home consumption in 1888, for the customs union as constituted before Oct. of that year:

Official Class.		Exports.	Imports.
1. Living animals		$23,[illegible],750	$38,916,000
2. Seeds and plants		6,514,500	10,649,000
3. Animal products		5,287,750	21,255,500
4. Fuel		28,114,750	17,[illegible],000
5. Food stuffs	Raw materials and manufactured goods.	96,841,250	187,321,750
6. Tallow, oils, etc		[illegible]	53,819,750
7. Chemicals and drugs		[illegible]	60,611,250
8. Stone, clay, and glass		[illegible]	12,768,250
9. Metals and metal goods		12[illegible]	70,287,500
10. Wood and wickerwork		[illegible]	12,[illegible]
11. Paper		22,657,750	3,[illegible]
12. Leather and hides		[illegible]	41,[illegible]
13. Textiles and felt		268,800,750	256,[illegible]
14. Caoutchouc		8,261,500	7,[illegible]
15. Carriages, furniture, etc		[illegible]	[illegible]
16. Machinery and instruments		33,835,500	12,962,500
17. Hardware, toys, etc		21,[illegible]	6,390,000
18. Literature, art, etc		18,[illegible]	6,572,750
19. Miscellaneous		165,250	. . . . . .
Total		$8[illegible],650,500	$8[illegible],909,250

These totals, which include the returns of gold and silver, show a considerable increase on the annual average for the five preceding years (1883-7), which was for exports, $[illegible]; for imports, $684,972,250. Taking into account the general commerce also, the total value of imports in 1888 was $[illegible]; of exports, $1,0[illegible],697,000. Great Britain, Russia, Austria, Belgium, the Netherlands, and France contributed more of the German imports than any other countries; Great Britain, Austria, the Netherlands, and France took more of the exports. German foreign trade has expanded since 1871, as is shown by the fact that, whereas the exports thence to Great Britain had in 1871 a value of $[illegible]5, in 1888 the value was $1[illegible],617,680.

The German mercantile fleet is the fourth in the world, being excelled only by those of Great Britain, the United States, and France. In 1887 it consisted of [illegible] tons) empty or in ballast; and in the same [illegible] and 15,987 (3,299,407 tons) were in ballast. Of the shipping entering with cargoes 3,304,449 tons were British, and 2,180,771 [illegible] vian and Russian; 5,228,250 tons were German. Besides [illegible] ports, by means of 20,390 vessels (1,153 steamers), plying on the numerous navigable rivers and canals.

In her commercial policy G. has of late years committed herself more and more to protection; and by a law of 1879, July, a protective policy was substituted for the previous free-trading principle of the empire. The chaos of coinages in use before the establishment of the empire has been rectified by the substitution (1873) of a uniform imperial system, the standard being gold (see BIMETALLISM). The silver mark, superseding guldens and thalers, is almost exactly equal to a shilling in value. Since 1872 the metrical system of weights and measures has been in use.

Railways, etc. The first railway in G. was the Ludwigsbahn between Nuremberg and Fürth, completed in 1835; but the first of any length was built between Leipzig and Dresden in 1837-9. In 1887-8 the railways in G. had a total length of 24,706 English miles, and on 1889, Jan. 1, 25,450 m. Of that total 21,268 m. were state lines, 263 m. were private lines under state management, and 3,175 m. were private lines under private management.

The postal and telegraphic systems of all the German states, except Bavaria and Würtemberg, are now under a central imperial administration, and since 1872, in accordance with treaties concluded between Austria and Prussia, a German-Austrian postal union has been established. The postal system includes the expedition of passengers and goods by the post-carriages of the several departments. In 1888 there were 19,170 post offices in the empire, and 14,900 telegraph offices. The total length of telegraph lines at the end of 1888 was 55,748 m., with 198,214 m. of wire, and in 1889, 57,063 m. This double department employed [illegible] hands. In 1887-8 its income was $53,961,020, and its expenditure $45,786,235; for 1889 its income was $50,290,619, and expenditure $43,645,120, or including Bavaria and Würtemberg, income $56,750,[illegible], expenditures $49,140,213.

Population, etc.—Four fifths of the population of this country are of the race called in English Germans, in French Allemands, but by the people themselves Deutsche. The term Deutsch, in Gothic *thiudisk*, in Old High Ger. *diutisc* (Latinised into *theotiscus*), is derived from the Gothic substantive *thiuda*, people, and therefore meant originally the popular language or, in the mouth of the learned, the vulgar tongue. In the 12th and 13th cents. it became the accepted designation both of this widespread tongue and of the race that speak it.

The German-speaking inhabitants of the empire number upward of 43,000,000, but a considerable proportion of these are not of the Germanic stock. Among the peoples retaining their own language (about 3,200,000) are Poles (exclusively in e. and n.e. Prussia), 2,513,000; Wends (in Silesia, Brandenburg, and Saxony), 140,000; Czechs (in Silesia), 50,000; Lithuanians (in e. Prussia), 150,000; Danes (in Sleswick), 140,000; French (in Rhenish Prussia, Alsace and Lorraine), and Walloons (about Aix-la-Chapelle in Rhenish Prussia), 280,000. The Germans are divided into High and Low Germans; the language of the former is the cultivated language of all the German states; that of the latter, known as *Platt Deutsch*, is spoken in the n. and n.w. As to the color of the hair, Prof. Virchow caused observations to be made on the hair of [illegible] school children, four fifths of the total number. The result showed that 31.80 per cent. belonged to the blond type, 14.05 to the brunette type, and 54.15 to the intermediate type. The blondes were most numerous in n. G., the brunettes in s. Germany.

It is computed that there are 23,000,000 Germans beyond the boundary of the empire, of whom [illegible] are in Austria, 7,000,000 in the United States, 2,000,000 in Switzerland, 400,000 in Poland (besides 800,000 German Jews). There are also many in the Volga country, in middle and s. Russia, Roumania, and Turkey.

The average density of the population of G. is about 222 per sq. m. The most densely populated country of the empire is Saxony, with 513 per sq. m.; the most sparsely populated is Mecklenburg-Strelitz, with 87 per sq. m. The concentration of the population in large towns is not so common in G. as in some other countries. Although in 1885 there were 137 towns with 20,000 inhabitants and upward, only one of these reached 1,000,000, three others 250,000, and seventeen others 100,000; twenty-three had between 50,000 and 100,000. Altogether the urban population number 43.7 per cent. of the whole, while 56.3 per cent. live in the open country.

Emigration.—During the [illegible] years emigration from G. has assumed very large proportions, but since 1882, when the highest total (220,798) was reached, the annual number of emigrants has greatly decreased. Between 1820 and 1887 it is calculated that about

4,200,000 emigrants left the country, five-sevenths of whom were bound for the United States of North America. The others went, in varying proportions, to South America, Australia, Canada, Africa, and Asia. In 1851-60 about 1,130,000 emigrants left G.; in 1861-71, 970,000; in 1871-80, 595,150; and in 1881-8, 1,143,570. In 1886 the number was 83,218; in 1887, 103,055; and in 1888, 98,515, besides about 4,000 sailing from French ports. By far the largest proportion of emigrants come from the n. parts of the empire; in 1888 the provinces of Posen and West Prussia each contributed over 12,000 to the Prussian total of 63,000. Bavaria sent 12,250; Würtemburg, 6,500; Saxony, 2,300. To balance this efflux of native blood, there were, in 1885, 372,792 foreigners in the German empire, of whom about 155,331 were Austrians. There were 14,889 British subjects in G. in 1885.

Colonies.—The steady stream of emigration from G. renders it natural that G. should wish to retain as many as possible of her emigrating children under her own flag; hence of late there has been much zeal in G. for the extension of German territory abroad, and between 1884-9 the following regions have become German possessions or come under German protection.

	Area in sq. m.	Population.
I. AFRICA—		
Togoland, on the Slave Coast	400	40,000
Cameroon	115,000	200,000
Damarland and Great Namaqualand	230,000	......
Usagara, etc., in East Africa	60,000	......
Wituland	520,000	......
German Protectorate, agreed upon with Britain and Zanzibar	140,000	......
II. POLYNESIA—		
In Marshal Islands	150	10,000
Kaiser Wilhelm Land, in New Guinea	70,300	100,000
Bismarck Archipelago (New Britain, etc.)	18,170	188,000
In Solomon Islands	8,580	80,000

Education.—Education is more generally diffused in G. than in any other country of Europe, and is cultivated with an earnest and systematic devotion not met with to any equal extent among other nations. Besides the Academy at Münster (founded 1780; 470 students) and the small Lyceum at Braunsberg (1568), which have only the two faculties of philosophy and Catholic theology, there are 20 universities: Heidelberg (1386), Würzburg (1402), Leipzig (1409), Rostock (1419), Greifswald (1456), Freiburg (1457), Munich (1472), Tübingen (1477), Marburg (1527), Königsberg (1544), Jena (1558), Giessen (1607), Kiel (1665), Göttingen (1734), Erlangen (1743), Berlin (1809), Breslau (1811), Halle (1817), Bonn (1818), Strasburg (1872). These institutions embrace the four faculties of theology, law, medicine and philosophy; in 1889 they had 2,200 professors and teachers, and in 1888-9 (winter session) 28,550 students. Berlin (5,750 students), Leipzig (3,459) and Munich (3,662) are the largest universities, Jena ([illegible]) and Rostock (346) the smallest. Of the universities 14 are Protestant (i.e. in the department of theology they teach only Protestant theology); three are Roman Catholic, viz. Freiburg, Munich, and Würzburg; three, viz., Bonn, Breslau, and Tübingen, are mixed, Protestantism prevailing in the first two, and Roman Catholicism in the last. There are also 16 polytechnic institutions; 787 gymnasia, realschulen, etc.; numerous special schools of technology, agriculture, forestry, mining, commerce, military science, etc.; several seminaries for teachers, and for the ministers of different religious denominations, and nearly 60,000 elementary schools. The attendance of children at school for at least four or five years, is made compulsory in nearly all the German states, and hence the proportion of persons who cannot read and write is exceedingly small. Among the military recruits of 1887-8 only 0.71 per cent. were unable either to read or write. In e. Prussia the percentage was 4.16, the highest in the empire. In all the other states, except Mecklenburg-Schwerin (1.2), the number of illiterate recruits was less than 1 per cent. Several of the smaller states had no recruits unable to read and write.

Public libraries, museums, botanical gardens, art collections, picture galleries, schools of music and design, and academies of arts and sciences are to be met with in most of the capitals and in many of the country towns, upward of 200 of which possess one or more permanently established theatres. In no country is the book and publishing trade more universally pratronized than in G., where the chief centres are Leipzig and Stuttgart. The press annually sends forth from 8,000 to 10,000 works, while about 3,000 papers and journals are circulated throughout the empire. Of the current newspapers a comparatively small number only exert any marked influence, but many of the German scientific and literary periodicals enjoy a world-wide reputation. The censorship of the press was abolished by a decree of the diet of 1848, and freedom of the press, under certain restrictions which were promulgated in 1854, has been introduced.

Religion.—In regard to religion, it may be stated generally that Protestantism predominates in the n. and middle, and Roman Catholicism in the s., e., and w., although very few states exhibit exclusively either form of faith. The Protestants belong chiefly either to the Lutheran confession, which prevails in Saxony, Thuringia, Hanover, and Bavaria e. of the Rhine, or to the Reformed or Calvanistic church, which prevails in Hesse, Anhalt, and the Palatinate. A union between these two churches has taken place in Prussia. There are six Roman Catholic archbishoprics and eighteen Roman Catholic bishoprics in Germany.

The following is the proportion of the different denominations, according to the census of 1885:

	Protestant.	Roman Catholic.	Other Christians.	Jews.	Other Religions.
Prussia...........	18,244,405	9,621,768	82,080	366,575	8,697
Bavaria...........	1,521,114	3,839,440	5,731	53,697	217
Saxony...........	3,075,961	87,762	10,263	7,755	262
Würtemburg.....	1,378,216	598,339	5,322	13,171	187
Baden............	566,327	1,004,388	3,822	27,104	114
Hesse............	643,881	278,450	3,005	26,114	161
Mecklenburg Duchies......	665,941	4,282	881	2,844	75
Oldenburg........	264,304	74,363	1,180	1,650	28
Thuringian states	1,187,523	20,073	1,451	3,852	154
Free towns.......	701,877	22,554	3,252	18,332	5,891
Other states	806,347	23,995	965	5,202	100
Alsace-Lorraine..	312,941	1,210,325	3,771	36,876	442
Total..........	29,369,847	16,785,734	125,673	563,172	11,278
Percentage....	62.68	35.82	0.27	1.2	.03

Judicial System.—In terms of the Judicature Acts of 1877-8, a uniform system of law courts was adopted by the different states in 1879. The appointment of the judges and the arrangement of the courts are left in the hands of the individual federal states, except in the case of the Reichsgericht. The Amtsgericht, with one judge, is competent for civil cases not involving more than £15 value, and for various minor offenses. More important criminal cases are tried by the Schöffengericht, in which two Schöffen (assessors), chosen by rotation from among the qualified private citizens, sit with the judge. It deals with crimes whose punishment is not more than three months' imprisonment or a fine of £30, and with theft, fraud, etc., in which the damage is not more than 25s. Above these is the Landgericht, divided into civil and criminal chambers (Kammern), and consisting of a president, directors (who preside over the chambers), and ordinary members. In connection with the Landgericht, jury courts (Schwurgerichte) are periodically held to try the more serious cases. These consist of three judges and twelve jurymen. A concurrent jurisdiction with the Landgericht in commercial matters is possessed by the chambers for commercial cases (Handelssachen), in which a judge sits as president along with two assessors (Handelsrichter) appointed for three years from among the qualified citizens. A revising jurisdiction over the courts below is possessed by the Oberlandesgericht, which is divided into civil and criminal senates, each of which consists of four councillors and a president. The supreme court of appeal for the whole empire is the Reichsgericht at Leipzig, to which appeals lie even from the jury trials. It possesses an original jurisdiction in the case of treason against the empire. It also is divided into civil and criminal senates, with a general president, senate presidents and councillors appointed by the emperor on the recommendation of the Bundesrath. Seven members are required to be present in order to give a valid decision in any of the senates; and in the plenum one-third of the members must be present.

The penal and commercial codes are now uniform throughout G;

but the code civil is still administered in Alsace-Lorraine and Rhenish Prussia, the Prussian land laws in the greater part of Prussia, and the German common law in Saxony, parts of Prussia, Bavaria, etc.

Army.—By the constitution of 1871, April 16, the Prussian military system was extended to the whole empire; though certain alterations in the Landwehr service were introduced by the Military Organization Bill of 1888. Every German who is wehrfähig (i.e. capable of bearing arms) must be in the standing army for seven years (generally his twenty-first to his twenty-eighth year). Three years must be spent in active service (bei den Fahnen), and the remainder in the army of reserve. He then spends five years in the first class of the Landwehr (q.v.), after which he belongs to the second class till his thirty-ninth year. Besides this, every German, from seventeen to twenty-one, and from thirty-nine to forty-five, is a member of the Landsturm, a force only to be called out in the last necessity. Those who pass certain examinations require to serve only one year with the colors. They are known as einjährige Freiwillige. Article 63 of the constitution enacts that the whole land forces of the empire shall form a united army under the command of the emperor in war and peace. The sovereigns of the principal states have the right to select the lower grades of officers, but even their selections require to obtain the approval of the emperor, whose authority is paramount—article 64 expressly declaring that all German troops are bound to obey unconditionally the orders of the emperor. The imperial army is divided into 18 army corps, and in 1889, on its peace footing, consisted of 19,457 officers, 472,498 rank and file, 88,283 horses, and about 1,500 guns. The grand total of 491,955 men comprises 166 regiments of infantry, 327,930 men; 21 battalions of jäger, or riflemen, 12,219 men; 93 regiments of cavalry 67,370 men; 52 regiments of artillery, 61,600 men; 21 battalions of engineers, 12,906 men; 18 battalions of military train, 6,372 men; and 3,558 other officers and men. On its war footing, the total is about 2,267,000 men, besides the Landsturm. The estimated cost of the army for 1889-90 was $97,658,775 (ordinary), and $16,070,500 (extraordinary).

Navy.—The formation of a German navy, due to the initiative of Prussia, dates from 1848, and of late years rapid progress has been made. In 1889 the imperial fleet consisted of 77 vessels, with a total tonnage of 186,196 tons. Of these, 12 were sea-going iron-clads, 14 armor-clad boats, 18 frigates and corvettes, 3 gunboats, 7 avisos or despatch-boats, 4 unarmored cruisers, 10 training-ships and boats, and 9 others. This fleet was manned by 15,246 seamen and boys, and officered by 10 admirals and 688 other officers besides 90 surgeons. The seafaring population of G. are liable to service in the navy instead of in the army. They are estimated at 80,000, of whom 48,000 are serving in the merchant navy at home, and about 6,000 in foreign navies. After three years' active service, four years are spent in the naval reserve and five more in the first class of the Seewehr, which corresponds to the Landwehr of the land forces. Seamen who have not served in the navy belong from seventeen to thirty-one years of age to the second class of the Seewehr. The empire has two ports of war, Kiel (q.v.), and Wilhelmshaven (q.v.) in the bay of Jahde on the North sea; and there is a naval dockyard at Danzig. The estimated cost of the navy for 1889-90 was $11,058,575 (ordinary), and $1,717,900 (extraordinary).

Revenue.—The revenue of the German empire is derived (1) from the customs dues on tobacco, salt, and beet-root sugar, which are entirely made over to it by all the states; from those on brandy and malt, which are also assigned by most of the states; from taxes on playing cards and stamps; from posts, telegraphs, and railways, the imperial bank, and various miscellaneous sources; (2) from extraordinary sources, as votes for public buildings and loans; and (3) from the proportional contributions (Matricularbeiträge) of the various states. The chief items of expenditure are the maintenance of the reichstag and various government offices, the army and navy, posts and telegraphs, railways, pensions, and other miscellaneous claims. The average income for the five years [illegible] was $[illegible],350, and the average expenditure $[illegible],000. The budget estimates for the four years 1886-7 to 1889-90 are: income, $[illegible], $257,315,825, $[illegible], and $[illegible]; expenditure, $[illegible], $219,283,075, $[illegible], and $[illegible]. The national debt on 1888 March 31, was $[illegible]; in [illegible] it was $1,175,400. Of the former total, $180,104,500 represented the funded debt, bearing interest chiefly at 4 per cent. By 1888, Nov. this sum had risen to $203,733,500, and it was estimated that an additional loan of $82,558,935 would be required to meet the additional military expenditure authorized by the law of 1889, March 27.

Social Organization.—All the states of the empire recognize four distinct orders, viz.: the nobility, clergy, burghers and peasantry, and all distinguish three distinct grades of nobility. The highest of these includes the members of reigning houses, and the descendants of families who belonged at the time of the old empire to the sovereign nobility of the state, and were reichsunmittelbar, or directly connected with the empire, as holding their domains directly under the emperor, but whose houses have subsequently been mediatised, or deprived of sovereign power in accordance with special treaties between the state and the princes. There are at present fifty princely and fifty-one gräfliche (comital) mediatised families, who, in accordance with the act of the diet of 1806, have equality of rank with reigning houses, and enjoy many of the special privileges which were accorded to the high nobles of the empire. The second grade of nobility is composed of counts and barons not belonging to reigning or mediatised houses, while the third and lowest grade includes the knights and hereditary patrimonial proprietors of Germany.

Before we proceed to consider the political organization of the new German empire, we shall briefly describe (1) the principal features of the constitution of the old Germanic empire, which was overthrown by the first Napoleon in 1806; and (2) that bund or federal government which lasted from 1815 to 1866, when Austria was excluded from the confederation, and the hegemony of G. was transferred to Prussia.

The Old Germanic Empire.—The states of this empire comprised three chambers or colleges: (1) The electoral college, which consisted of the archiepiscopal electors of Mainz, Treves, and Cologne, and the secular electors, of whom there were originally only four, but whose number was subsequently increased to five, and who at the dissolution of the empire were represented by the sovereigns of Bohemia, Bavaria, Saxony, Brandenburg, and Brunswick-Lüneburg or Hanover (see ELECTORS). (2) The college of the princes of the empire, who had each a vote in the diet, and were divided into spiritual and temporal princes. (3) The free imperial cities which formed a college at the diet, divided into two benches, the Rhenish with fourteen cities, and the Swabian with thirty-seven; each of these had a vote. These colleges, each of which voted separately, formed the diet of the empire. When their respective decisions agreed, the matter under discussion was submitted to the emperor, who could refuse his ratification of the decisions of the diet, although he had no power to modify them. Ordinary meetings were usually summoned twice a year by the emperor, who specified the place at which the sittings were to be held; during the later periods of the empire they were held at Regensburg (Ratisbon). The diet has the right to enact, abrogate, or modify laws, conclude peace and declare war, and impose taxes for the general expenses of the state. The Aulic Chamber, and the Cameral or chief tribunal of the empire, decided in cases of dispute between members of the diet. The emperors were chosen by the electors in person or by their deputies; and after their election and coronation, which usually both took place at Frankfort-on-the-Main, the emperor swore to the 'capitulation,' or constitution of the empire. After the dissolution of the empire in 1806, its place was nominally taken by the confederation of the Rhine, which owed its existence to Napoleon, and which lasted till 1815.

Germanic Confederation.—The Germanic confederation was established by an act of the congress of Vienna in 1815, on the overthrow of Napoleon. It was an indissoluble union from which no single state could at its own pleasure retire. Its central power, and its executive and legislative powers were represented by the federative diet, which held its meetings at Frankfort-on-the-Main, and was composed of delegates from all the confederated states chosen not by the people, but by the various governments. The diet deliberated either in a limited council (the Executive government) or as a general assembly (Plenum). In the limited council there were 17 votes, of which 11 of the principal states had each 1, while the remaining states divided the 6 collective votes between them. The Plenum, which met only when any organic change was to be effected in the diet itself, embraced 70 votes, of which Austria and the five German kingdoms had each 4, while the other states had 3, 2, or 1 vote each, in proportion to their individual importance. It rested with the limited council, which executed the enactments of the Plenum, and dispatched the ordinary business of the confederation, to decide by a majority of votes, whether a question should be submitted to the Plenum, where it was not debated, but simply decided by a majority of ayes or noes. Austria presided in both assemblies, and had a casting vote in cases of equality. The diet, as a collective body, had the right of concluding peace and alliances, and declaring war; but this power could only be exercised for the maintenance of the independence and external security of G. and the individual integrity of the several federative states, which, on their part, were bound to submit to the diet the consideration of all questions in dispute between themselves and other powers. Where such differences could not be settled by the committee empowered by the Plenum to consider them, they were finally referred to a special tribunal, known as the 'Austragal' court, which was composed of several members of the confederation, invested for the time with full powers. From 1866-71 the place of this bund was held by the North German confederation, which is described in the historical part of this article.

Present German Empire. The 79th article of the constitution of the North German confederation provided for the admission of the S. German states into the new bund; and the war between France and G., which broke out in 1870, July, and in which all the German princes and peoples took part, gave an irresistible impetus to the desire for national unity. On 1870, Nov. 15, the grand duchies of Baden and Hesse joined the bund, Bavaria followed on the 23d, and Würtemberg on the 25th of the same month. Shortly after, the king of Bavaria wrote a letter to the king of Prussia, urging him to re-establish the German empire. This brought the question under the notice of the bund; and on 1870, Dec. 10, it was agreed, by 188 votes to 6, that the empire should be restored, and that the king of Prussia should be acknowledged hereditary German emperor. The latter solemnly accepted the new dignity at Versailles, 1871, Jan. 18.

The constitution for the new empire was promulgated by an imperial decree of 1871, Apr. 16, and is contained in 78 articles, under 14 sections. Alsace and Lorraine were brought under its provisions from 1874, Jan. 1. The preamble expressly declares that all the states of G. form an eternal union for the protection of the territory of the bund, and for the care of the welfare of the German people. The empire possesses the exclusive right of legislation on all military and naval affairs; on civil and criminal law for general application; on imperial finance and commerce; on posts, telegraphs, and railways in so far as the interests of the national defense and general trade are concerned. Wherever the laws of the empire come into collision with those of particular states of the bund, the latter must be held as abrogated; and in all disputes that arise among the individual states, the imperial jurisdiction is supreme and final.

There are two legislative bodies in the empire: the bundesrath, or federal council, the members of which are annually appointed by the government of the various states, and the reichstag, the members of which are elected by universal suffrage and ballot for a period of three years. The former deliberates on proposals to be submitted to the latter, and on the resolutions received from it. A simple majority is sufficient to carry a vote in the bundesrath. Acting under the direction of the chancellor of the empire, the bundesrath, in addition to its legislative functions, represents also a supreme administrative and consultative board, and, as such has 11 standing committees, viz.: for the army and fortresses; naval matters; tariff, excise, and taxes; trade and commerce; railways, posts, and telegraphs; civil and criminal law; financial accounts; foreign affairs; Alsace-Lorraine; matters affecting the constitution; and the arrangement of business. Each committee consists of representatives of at least four states of the empire besides the president; but the foreign affairs committee includes the representative of the kingdoms of Bavaria, Saxony, and Würtemberg and of two other states annually selected by the bundesrath.

The reichstag contains approximately one member for every 120,000 inhabitants; in 1889 there were 397 members. The reichstag must be convened annually, but cannot be assembled unless the bundesrath is also in session. Its proceedings are public; the members are unpaid, but enjoy various privileges and immunities. A dissolution of the reichstag before the end of three years requires the consent of the bundesrath, and the new election must take place within 60 days, and the meeting of the new reichstag within 30 days after the dissolution. By a law passed in 1888, to come into force in 1890, the legislative period has been increased to five years. The reichstag elects its own president. The members of the bundesrath may claim a right to speak in the reichstag; but no one can be a member of both assemblies at once. All imperial laws must receive the votes of an absolute majority of both bodies, and, to be valid, must, in addition, have the assent of the emperor, and be countersigned when promulgated by the reichskanzler, or chancellor of the empire, who is appointed by the emperor, and is *ex-officio* president of the bundesrath.

The votes in the two assemblies are apportioned as follows: Prussia has 17 votes in the bundesrath and 236 in the reichstag; Bavaria has respectively 6 and 48; Würtemberg, 4 and 17; Saxony, 4 and 23; Baden, 3 and 14; Mecklenburg-Schwerin, 2 and 6; Hesse, 3 and 9; Oldenburg, Saxe-Weimar, and Hamburg, each 1 and 3; Brunswick, 2 and 3; Saxe-Meiningen, Saxe-Coburg-Gotha, and Anhalt, 1 and 2; and the remainder 1 vote in each assembly. Alsace-Lorraine has 15 votes in the reichstag, but in the bundesrath is represented only by 4 commissioners (commissäre) without votes, appointed by the statthalter. To assist the reichskanzler in managing imperial affairs, a number of offices (not ministries) have developed in the course of time for the different departments of state.

According to the eleventh article of the constitution, the German emperor, with the consent of the bundesrath, can declare war, make peace, enter into treaties with foreign nations, and appoint and receive ambassadors. If, however, the territory of the empire is attacked, he does not require the consent of the bundesrath to declare war, but can act independently. Changes in the constitution can be effected only by imperial law, and they are held to be rejected if 14 votes are given against them in the bundesrath.

Political Parties.—There is no imperial responsible ministry in G., and the government is independent of changes in the relative strength of the various parties in the reichstag. For years Prince Bismarck formed alliances now with this, now with that party, according to the aim he had in view; and his opponents, even when they defeated his measures, had no thought of superseding him in the chancellorship. The chief political parties in the reichstag may be roughly grouped under the names liberal, conservative, and clerical. Of the first, the national liberals, a party dating from the crisis of 1866, whose object is unification on constitutional lines, were long the most influential supporters of Bismarck. In 1879, however, they differed from him on the questions of the new protectionist and military policies; and in consequence they suffered a severe defeat at the next election. The advanced wing of the liberal party, known as the fortschrittspartei, formed a coalition in 1884 with a considerable number of 'secessionists' from the national liberals, and founded the present deutschfreisinnige partei under the leadership of Eugen Richter, with a radical programme including demands for a responsible ministry, annual budgets, freedom of speech, meeting, and press, and payment of members. The reorganized national liberal party once more approached Bismarck, and having in 1888 joined the conservatives in support of the government measures, now forms part of the so-called cartellparteien or coalition party. The conservatives include the deutsche konservativen, a distinctly reactionary group, and the deutsche reichspartei or freikonservativen, best perhaps described as liberal conservatives, aiming at a firm imperial government as the first necessity of their country. The centre or ultramontane party, organized by Windthorst since 1871, is essentially the Roman Catholic clerical party, and has offered the most determined and best organized resistance to Bismarck. A temporary alliance however with this party enabled the chancellor to carry his protectionist proposals in 1879. The members of the French party of Alsace generally vote with the centre. Among the smaller parties the most significant is that of the social democrats, who, in spite of all the hostile socialist legislation, rose from 2 votes in 1871 to 24 in 1884. The smaller parties with special and local views are known as particularists. They include the Poles, aiming at the separation of Polish Prussia from G., Welfen, or Hanoverian legitimists, and some individual members. In 1884 the conservatives had 78 votes, in 1887, 120; the national liberals, 51 and 99; the freisinnige, 104 and 32; the centre, 109 and 98; the social democrats, 24 and 11.

See Statistik des Deutschen Reichs, published periodically by the Imperial Statistical Office, and the Statistisches Jahrbuch (annually since 1880). The Jahrbuch for 1889 contains an index to the Statistik since 1873. Kutzen, Das Deutsche Land (3d ed. 1880); Berghaus, Deutschland und seine Bewohner (2 vols. 1860); Daniel, D. nach seinen physischen und politischen Verhältnissen (2 vols. 5th ed. 1878);

Delitsch, Forschungen zur D. Landes u. Volkskunde, 1885); Neumann, Das Deutsche Reich in Geog., Statist., und Typograph. Beziehung (1872-4), and Geog. Lexikon des D. Reichs (1883); S. Baring-Gould, Germany, Past and Present (2 vols. 1881); Baedeker's Travellers' Handbooks; and the Handbuch für das Deutsche Reich, Kürschner Staatshandbuch, the Statesman's Year-book, and the Almanach de Gotha for the current year. On the Constitution, Störk's Handbuch der Deutschen Verfassung (1884.)

History. The earliest information we have of the Germans, the peoples and tribes who dwelt among the dense forests that stretched from the Rhine to the Vistula, and from the Danube to the Baltic Sea, comes to us from the Romans, the principal authority being Tacitus. The term Germans is of Celtic origin, though its meaning is not precisely known. It was in all probability borrowed by the Romans from the Gauls. The Germans were not one homogeneous nation, but a multitude of separate and independent tribes who had racial origin, language, and similarity in their mode of life for their only links of connection. The first tribes of Germanic race to come into collision with the arms of Rome were the Cimbri and Teutones, who in 113 B.C. had invaded Styria, and there met with defeat from the troops of the consul Papirius. The next Roman general who made trial of their prowess was Cæsar. When in 58 B.C. he began his campaigns in Gaul, he found several hordes of Germans, mostly Marcomanni and Suevi, settled between the Rhine and the Vosges, and even on the w. side of these hills. Appealed to by the Gauls of those regions to free them from their German oppressors, Cæsar, in spite of the redoubtable stature and strength of his enemies, and of their personal valor, inflicted a crushing defeat upon their ambitious chieftain, Ariovistus, and chased him and his followers across the Rhine. Then, continuing his campaign, he drove back (55 B.C.) behind the same river those tribes that had settled on its western side in Belgium, and even followed them into their original seats in G. in two short campaigns. The tranquillity which was established through his exertions was, however, so seriously disturbed again by 15 B.C. that Augustus felt it necessary to make a serious effort to subjugate these troublesome neighbors of Gaul. Accordingly Drusus was sent (12 B.C.) at the head of eight legions across the frontier; and in four campaigns he was so far successful that he subdued the Batavians, Frisians, and other tribes as far as the Elbe, and likewise the Chatti on the Main. After the death of Drusus in 9 B.C. Tiberius conquered the Tencteri and Usipetes who lived on the middle Rhine, and afterward the Sicambri and others settled on the banks at its mouth. In 6 A.D. the work was taken up by Varus, but Varus in attempting to consolidate the Roman power by depriving the Germans of their national institutions and imposing upon them those of the empire, provoked a general revolt of the subjected peoples. The animating spirit of this patriotic movement was Arminius (q.v.), chief of the Cherusci, who not only overthrew Varus and slew him and his legions (9 A.D.) at one blow in the Teutoburg Forest, but with irresistible élan swept the Romans before him until he had expelled them from German soil. The struggle was renewed by Germanicus, who defeated Arminius and avenged the Roman honor, but at length in 16 A.D. withdrew his legions. Henceforth, the Romans contented themselves with guarding their long frontier line, and in this task they succeeded for some time as much by stirring up dissension among the chiefs of their foes as by their own military skill. Yet they managed to bring the Frisians and Batavians under their influence, until in 69 a fierce revolt broke out among the latter people, a revolt which was only crushed after a terrible struggle. About 100 years later the Germans began to change the order of things. In the period 166-174 Aurelius [illegible] a little incursion of the Marcomanni [illegible] into Roman territory. From the 3d cent. we no longer read of single tribes, but of great confederations of tribes, as the Goths, [illegible] Franks, Saxons, [illegible] Burgundians and others. These [illegible] the Romans all along their frontier [illegible] the middle Danube [illegible] the walls they had [illegible] to keep the Germans [illegible] the movement before which Rome eventually succumbed. The Huns invaded Europe, and by [illegible] to what is known as the Völkerwanderung, or Migration of the Peoples. The tribes which lay next to Roman territory, being pressed upon themselves by those behind, upon whom the first brunt of the Hunnish attack had fallen, and at last they began to pour across the boundary in such broad deep streams that the dams of the Romans were broken completely down before their onrush. Of the history of G. itself we learn little more that is authentic until we come down to the times of the Franks, except that the Slavic nations following in the wake of the Huns seized and occupied the lands left vacant by the German emigrants who had gone Romewards; and that of the confederations still remaining at home in their original lands the most important were the Alemanni, the Thuringians, Saxons, Bavarians, and Franks. The historian turns his attention more especially toward the last named, since by them the kingdoms of France and G. were subsequently formed. See FRANCE and **FRANKS.**

After the gradual expulsion or retirement of the Romans from G., the country necessarily became subdivided into numerous petty states, each governed by its own chief. The erection of the Franko-Merovingian empire in France had given preponderance to the Frankish power on both sides of the Rhine; and when Charlemagne succeeded in 771 to the German as well as the Gallic possessions of his father, Pepin the Short, he found himself possessed of an amount of territory and a degree of influence which speedily enabled him to assert supremacy over the whole of the w. of G., while his conquests over the heathen Saxons in the n., and the Avars who then held Pannonia in the s.e., extended his German dominions from the North Sea to the Alps, and from the Rhine as far as Hungary. With Charlemagne, who received the imperial crown at the hands of the pope in 800, began the long line of emperors and kings who occupied the German throne for more than a thousand years; and with him, too, ended the stability of the vast fabric which he had reared on the ruins of Roman power, for at his death no other member of his family was competent to wield the imperial sceptre. Although in 843 some portions of his German possessions fell, in accordance with the treaty of Verdun, to his grandson Ludwig, surnamed 'the German,' who was recognized as the king of G. or East Francia, the final and absolute partition did not take place till 888, when Arnulf seized the eastern throne. On the extinction, in 911, of the degenerate Carlovingian dynasty in the person of Ludwig 'the Child,' the provincial rulers, who, together with the archbishops, bishops, and abbots, constituted the chief members of the diet, or the national assembly, arrogated to themselves, in imitation of the practice of the nobles of the ancient German tribes, the right of electing their sovereign, who, however, could not assume the imperial title till he had been crowned by the pope. At this period there were five nations—the Franks, Saxons, Bavarians, Swabians, and Lotharingians. The Franks, as the descendants of those who had conquered the land and founded the empire, claimed a precedence over the others; and hence, on the extinction of the Carlovingian race, the choice of the prince electors seems to have fallen almost as a matter of course on the chief of the Franks, the Duke of Franconia, who reigned as king of G. from 911 to 918, under the title of Conrad I. At his own instigation, his rival and adversary, Henry, Duke of Saxony, was chosen as his successor, and proved himself an able and warlike prince. The conquests of this great prince over the Danes, Slavs, and especially over the terrible Magyars, were continued and extended by his son and successor, Otho I. (936-73), who carried the boundaries of the empire beyond the Elbe and Saale, and who, by his acquisition of Lombardy and the [illegible] between the [illegible] of G. and the [illegible] was [illegible] precedent for the exercise of those offices [illegible] were regarded as connected with the dignity of the secular electors. At the coronation feast, at which the emperor dined with the three spiritual electors, he was waited upon by the secular princes—the dukes of Franconia, as steward; of Saxony, as marshal; of Swabia [illegible]; of Bavaria, as grand cup-bearer; and of Lorraine (afterward of Brandenburg), as arch-chamberlain.

Otho II. (973-83), Otho III. (983-1002), and Henry II. (1002-24), belonged to the house of Saxony, which was succeeded by that of Franconia, in the person of Conrad II. [illegible] r, who added Burgundy to the empire. His son and successor, Henry III. (1039-56), [illegible] extended German supremacy over Bohemia, Denmark and Hungary; [illegible] the great [illegible] to interfere [illegible] the pope [illegible] the respect of [illegible] by his zeal [illegible] valor in the field. The minority of his son and successor, Henry IV. (1056-

1106), enabled the nobles to recover much of their former power, and to apply a check to the further consolidation of the imperial authority, which had been considerably extended under the two preceding reigns. Henry's constant quarrels with the astute Gregory VII. entangled him in difficulties and mortifications, which culminated in his humiliation at Canossa, and only ended with his life, and which plunged G. into anarchy and disorder. The emperor's most formidable rival, Rudolph of Swabia, was defeated and slain in 1080. With his son and successor, Henry V. (1106–25), who made peace with the papacy by the Concordat of Worms in 1122, the male line of the Franconian dynasty became extinct; and after the crown had been worn (1125–37) by Lothair of Saxony, who made a bold attempt to recover some of the prerogatives of which at his election the empire had been deprived through papal intrigues, the choice of the electors, after a season of dissension and intrigue, fell upon Conrad III. (1138–52), Duke of Franconia, the first of the Hohenstaufen dynasty. His reign, in which the civil wars of the Guelphs (q.v.) and Ghibellines began, was distracted by the dissensions of the great feudatories of the empire, while the strength of G. was wasted in the disastrous crusades, in which Conrad took an active part. On his death the electoral college for the first time met at Frankfort, which retained the honor of being the place at which the sovereign was elected and crowned till the dissolution of the empire in the 19th c. Frederick I. (1152–90), surnamed Barbarossa, Duke of Swabia, was, at the recommendation of his uncle Conrad, chosen as his successor, and the splendor of his reign fully warranted the selection. By the force of his character Frederick acquired an influence over the diets which had not been possessed by any of his immediate predecessors, and during his reign many important changes were effected in the mutual relations of the great duchies and counties of G., while we now for the first time hear of the hereditary right possessed by certain princes to exercise the privilege of election. Unfortunately for G., this great monarch suffered the interests of his Italian dominions to draw him away from those of his own country, while his participation in the Crusades, in which both he and the flower of his chivalry perished, was only memorable for the misfortunes which it entailed on the empire. The interval between the death of Frederick Barbarossa (1190) and the accession of Rudolf I. (1273), the first of the Hapsburg line, which, through a female branch, still reigns in Austria, was one of constant struggle, internal dissension and foreign wars. Individually, the princes of the Hohenstaufen dynasty were popular monarchs, their many noble and chivalrous qualities having endeared them to the people, while one of the race, Frederick II. (1212–50), was, after Charlemagne, perhaps the most remarkable sovereign of the middle ages; but their ambitious designs on Italy, and their constant but futile attempts to destroy the papal power, were a source of misery to G., and with Frederick II. ended the glory of the empire, till it was partially revived by the Austrian House of Hapsburg. His son Conrad IV. (1250–54), with whom the Hohenstaufen line ended in G., was succeeded, after a brief and troubled reign, by various princes who in turn, or in some cases contemporaneously, bore the imperial title without exercising its legitimate functions or authority. This season of anarchy, known as the Great Interregnum, was terminated at the accession of Rudolf I. (1273–91), who, by the destruction of the strongholds of the nobles and the stringent enforcement of the laws, restored order. His chief efforts were, however, directed to the aggrandizement of his Austrian possessions, which embraced Styria, Carinthia, Carniola, and Tyrol.

For the next 50 years the history of the German empire presents very few features of interest, and may be briefly passed over. Adolf of Nassau, who was elected to succeed Rudolf, was compelled in 1298 to yield the crown to the son of the latter, Albert I. (1298–1308), whose reign is chiefly memorable as the period at which the Swiss cantons (Unterwalden, Schwyz, and Uri) established their independence. After the murder of Albert, the throne was occupied in rapid succession by Henry VII. (1308–13), who annexed Bohemia to the empire, and conjointly by Frederick III. of Austria and Ludwig IV. of Bavaria (1313–47). Charles IV. (1347–78) of Luxemburg was the successful candidate among many rivals, and though he attended specially to the interests of his hereditary possessions of Bohemia, Moravia, Silesia, and Lusatia, he did not entirely neglect those of the empire, for which he provided by a written compact known as the Golden Bull (1356), which regulated the rights, privileges, and duties of the electors, the mode of the election and coronation of the emperors, the coinage, customs, and commercial treaties of the empire, and the rights and obligations of the free cities. His son, Wenceslaus (1378–1400), who was finally deposed, brought the royal authority into contempt, from which it was scarcely redeemed by Rupert of the Palatinate (1400–10). The nominal reign of Sigmund (1410–37), the brother of Wenceslaus, would demand no notice were it not for his connection with the Council of Constance in 1414, at which Huss was condemned, and which was followed by the disastrous Hussite wars. The readiness with which Sigmund lent himself to the interests of Henry V. of England, and of all other princes who ministered to his love of personal display, brought discredit on the imperial dignity, while his dishonorable desertion of Huss will ever attach ignominy to his name. Albert II. of Austria (1438–39), after a reign of less than two years, in which he gave evidence of great capacity for governing, was succeeded by his cousin, Frederick IV. (1440–93), an accomplished, but avaricious and indolent prince, whose chief object seemed to be the aggrandizement of the House of Hapsburg, with which the title of emperor had now become permanently connected (see AUSTRIA), while he neglected the interests of G. collectively, and suffered the Turks to make unchecked advances upon his territory. Maximilian I. (1493–1519), the son and successor of Frederick, resembled him in few respects, for he was active, ambitious, and scheming, but deficient in steadiness of purpose. His marriage with Mary, the rich heiress of her father, Charles the Bold of Burgundy, involved him in the general politics of Europe, while his opposition to the reformed faith preached by Luther exasperated the religious differences which disturbed the close of his reign. Maximilian had, however, the merit of introducing many improvements in regard to the internal organization of the state, by enforcing the better administration of the law, establishing police, and an organized army, and introducing a postal system. With him originated, moreover, the special courts of jurisdiction known as the Imperial Chamber and the Aulic Council; and in his reign the empire was divided into ten circles, each under its hereditary president and its hereditary prince-convoker. Maximilian lived to see the beginning of the reformation, and the success that attended Luther's preaching, but the firm establishment in G. of the reformed faith, and the religious dissensions by which its success was attended, belong principally to the reign of his grandson, Charles I., king of Spain, the son of the Archduke Philip and of Joanna the heiress of Spain, who succeeded to the empire under the title of Charles V. (1519–56). The management of his vast possessions in Spain, Italy, and the Netherlands, and the wars with France, in which he was so long implicated, diverted him from his German territories, which he committed to the care of his brother Ferdinand. The princes of G. were thus left to settle their religious differences among themselves, and to quell, unaided by the head of the state, the formidable insurrection of the peasants (1524–25), which threatened to undermine the very foundations of society, and which had followed close upon the nobles' war (1522–23), raised by Ulrich von Hutten and Francis von Sickingen in the vain hope of securing a more united G. under the emperor. The rising of the lower orders was due to the preaching of the fanatic Münzer, and other leaders of the sect of Anabaptists (q.v.), which had arisen from a perverted interpretation of some of the tenets advanced by Luther. Charles' determined opposition to the reformers rendered all settlement of these religious differences impracticable; and when, by the defection of his ally Maurice of Saxony, he broke the [illegible] of the protestant princes known as the league of Schmalkald, he was forced by his former ally to sign the peace of Passau (1552), which granted toleration to the Lutherans; and in his disgust at the complicated relations in which he was placed, he abdicated in favor of his brother Ferdinand (1556–64), who [illegible] the religious dissension that [illegible] toleration to the protestants. Although Ferdinand was personally mild and pacific, his reign was disturbed by domestic and foreign aggressions, the different sects destroying the peace of the empire at home, while the French and the Turks assailed it from abroad.

During the next 50 years the empire was a prey to internal disquiet. Maximilian II. (1564–76) was [illegible] a wise and just prince, but the little he was able to effect [illegible] the different [illegible] was fatally counteracted [illegible] successor, [illegible] by the dissensions of the opposite [illegible] each in turn [illegible] of foreigners to contribute toward the universal anarchy which culminated in the thirty years' war, began under Rudolf's brother and successor Matthias (1612–19); continued under Ferdinand II. (1619–37), an able, but cruel and bigoted man, and ended under Ferdinand III. (1637–57), by the treaty of Westphalia, in 1648. The effect of the thirty years' war (q.v.) was to depopulate the rural districts of G., destroy its commerce, burden the people with taxes, cripple the already debilitated power of the emperors, and cut up the empire into a multitude of petty states, the rulers of which exercised almost absolute power within their own territories. Leopold I. (1658–1705), a haughty, pedantic man, did not avail himself of the opportunity afforded by peace for restoring order to the state, but suffered himself to be drawn into the coalition against France, while his hereditary states were overrun by the Turks and were indebted for their safety to Sobieski, king of Poland. Although success often attended his arms, the cunning of Louis XIV. prevented peace from bringing the emperor any solid advantages; and it was in this reign that Strasburg was attached to the French empire. The reigns of Joseph I. (1705–11) and Charles VI. (1711–40), with whom expired the male line of the Hapsburg dynasty, were signalized by the great victories won by the imperialist general, Prince Eugene, in conjunction with Marlborough, over the French, in the war of the Spanish succession (1702–13). But the treaty of Utrecht (1713) brought no solid advantage to the empire. The disturbed condition of Spain and Saxony opened new channels for German interference abroad. G. was further distracted, after the death of Charles, by the dissensions occasioned by the contested succession of his daughter, Maria-Theresa, who claimed the empire in virtue of the pragmatic sanction drawn up by her father in 1713, and through her of her husband, Francis I. of Lorraine, after their rival, the Bavarian elector, Charles VII., had by means of Prussian aid been elected in 1742 to the imperial throne. Charles, however, was obliged to cede his crown after a brief occupation of three years. Constant disturbances, intensified during the seven years' war (1756–63), when Frederick the Great of Prussia maintained his character of a skilful general at the expense of the Austrians, made the reign of Francis I. (1745–65) one of trouble and disaster. Joseph II., his son (1765–90), during the lifetime of Maria Theresa, who retained her authority over all the Austrian states, enjoyed little beyond the title of emperor, to which he had succeeded on his father's death. But when he ultimately acquired his mother's vast patrimony he at once entered upon a course of reforms, which were, however, premature, and ill-suited to the cases to which they were applied; while his attempts to re-establish the supremacy of the imperial power in the states of G. were frustrated by Prussian influence.

Leopold II., after a short reign of two years, was succeeded in 1792 by his son Francis II., who after a series of defeats by the armies of the French republic, and the adhesion, in 1805, of many of the German princes to the alliance of France, which led to the subsequent formation of the Rhenish confederation under the protectorate of Napoleon, resigned the German crown, and assumed the title of Emperor of Austria (see for further details AUSTRIA, NAPOLEON, FRANCE, PRUSSIA, and the articles on the other German states). From this period till the congress of Vienna of 1814–15, G. was almost entirely at the mercy of Napoleon, who deposed the established sovereigns and dismembered their states in favor of his partisans and dependants, while he sapped the wealth of the country and exhausted its resources by the exactions of subsidies and contributions. The second peace of Paris (1815) restored to G. all that had been wrested from her in 1792; and, as a reconstruction of the old empire was no longer possible, those states which still maintained their sovereignty combined in 1815 to form a German confederation. Of the [illegible] states into which the empire had once been divided, there now remained only [illegible], a number which was afterward reduced by the extinction of several petty dynasties. The diet was reorganized, and appointed to hold its sittings at Frankfort-on-the-Main, and having been formed [illegible] legislative and executive organ of the confederation; but it failed to satisfy the expectations of [illegible] the hands of the princes [illegible] their own efforts for the suppression of every [illegible] The [illegible] seized as additional excuses for reaction; and though the French revolution of [illegible] compel their rulers to grant written constitutions to their subjects the effect was transient, and it was not till 1848 that the German nation gave expression, by open insurrectionary movements, to the discontent and the sense of oppression which had long possessed the minds of the people. The princes endeavored by hasty concessions to arrest the progress of republican principles, and, fully recognizing the inefficiency of the diet, they gave their sanction to the convocation, by a provisional self-constituted assembly, of a national congress of representatives of the people. Archduke John of Austria was elected vicar of the newly organized national government; but he soon disappointed the hopes of the assembly by his evident attempts to frustrate all energetic action on the side of the parliament, while the speedy success of the anti-republican party in Austria and Prussia damped the hopes of the progressionists. The refusal of the king of Prussia to accept the imperial crown which the parliament offered him in 1849 was followed by the election of a provisional regency of the empire; but as nearly half the members had declined taking part in the proceedings, or in a previous measure, by which Austria had been excluded, by a single vote, from the German confederation, the assembly soon lapsed into a state of anarchy and impotence, which terminated in its dissolution. The sanguinary manner in which insurrectionary movements had in the meanwhile been suppressed by Prussian troops both in Prussia and Saxony put an effectual end to republican demonstrations; and in 1850 Austria and Prussia, after exhibiting mutual jealousy and ill will which more than once seemed likely to end in war, combined to restore the diet, whose first acts were the intervention in Sleswick-Holstein in favor of Denmark, and the abolition of the free constitutions of several of the lesser states. From that period the diet became the arena in which Austria and Prussia strove to secure the supremacy and championship of G.; every measure of public interest was made subservient to the views of one or other of these rival powers; and the Sleswick-Holstein difficulties were the principal questions under discussion in the federal parliament down to the rupture between Prussia and Austria, and the dissolution of the bund in 1866.

The immediate cause of the war of 1866 was the difference that arose between Prussia and Austria after the convention of Gastein (1865) as to the occupation and disposal of the territory taken from Denmark in the short war of 1864 (see SLESWICK). But the real grounds lay in that rivalry between the two states for the leadership of G., the germ of which is seen in the time of the great elector (see FREDERICK WILLIAM), and which has shown itself at many epochs of their history. There can be little doubt that the feeling of the German people, as distinguished from the princes and bureaucracy, had in recent times at least, been in favor of the purely German Prussia, rather than Austria. And when the parliament of Frankfort, in 1849, offered the imperial crown to the king of Prussia, the unity of G. might have been secured without bloodshed, had the [illegible] been less [illegible], or had he had a Bismarck for his adviser. But the opportunity being let slip and the [illegible] of the old regime restored, it became apparent that the knot must be cut by the sword.

By the treaty of Gastein, Austria and Prussia agreed to a joint occupation of the [illegible] [illegible] it was pledged [illegible] that Austria [illegible] Holstein, and Prussia, Sleswick. [illegible] Prussia was [illegible] while Austria [illegible] of [illegible]. In the [illegible] and Italy [illegible] to strike a blow [illegible] of [illegible] entered into an alliance with Prussia.

In the spring of [illegible] Austria, disregarding the [illegible] the disposal of the [illegible] the estates of Holstein to assemble [illegible] the duchies. Prussia protested [illegible] of treaty; demanded [illegible] and, while [illegible] troops of her [illegible] Austria [illegible] under protest, and [illegible] the part of Prussia proposed [illegible] against the integrity of the empire. [illegible] was carried by a great majority in 1866, June 14; Hanover, Saxony, Hesse-Cassel, and Hesse-Darmstadt voting for it. The resolution having passed, the Prussian plenipotentiary, in the name of his government, declared the German confederation dissolved forever, and immediately withdrew.

Thereupon identical notes were sent by Prussia to the courts of Saxony, Hanover, and Hesse-Cassel. The terms were not accepted, and the Prussian troops at once took military possession of the three kingdoms without resistance. War was now declared against Austria; the Prussian host, numbering in all [illegible] men, with [illegible] guns, invaded Bohemia at three several points. The Austrians, who had been surprised in a state of ill-organized unreadiness, had assembled an army of 262,000 men and 746 guns; and the greater portion of these were stationed, under Gen. Benedek, behind the Riesengebirge, expecting the attack from Silesia. The Prussian armies meanwhile crossed the Erzgebirge without opposition, drove the Austrian army steadily and quickly back with heavy losses, and after effecting a junction, moved steadily forward to meet the Austrian army now concentrated between Sadowa and Königgrätz. Here, on July 3, was fought the decisive battle. The Austrian cavalry made heroic efforts to turn the tide of victory; but the stern trained valor of the Prussians, armed with the, till then little known, breech-loading 'needle-gun,' was invincible, and the Austrian army was broken and dissolved in precipitate flight. The Prussians lost upward of [illegible] killed and wounded; the Austrian loss was [illegible] killed and wounded, and [illegible] prisoners. After this decisive defeat, which is known as the battle of Königgrätz or Sadowa, all hope of staying the advance of the Prussians with the army of Benedek was at an end; a truce was asked for but refused; and not till the victorious Prussians had pushed forward toward Vienna, whither Benedek had drawn his beaten forces, was a truce obtained through the agency of the emperor of the French, the peace of Prague (Aug. 20). Italy (q.v.), though more than half inclined to stand out for the cession by Austria of the Trentino, as well as Venetia, reluctantly agreed to the armistice (Aug. 12).

A brief campaign sufficed for the defeat of the minor states of G. that had joined Austria, viz.: Bavaria, Württemberg, Baden, and Hesse-Darmstadt; and, after peace had at last been arranged, some of them were forced to submit to a certain loss of territory. Saxony only escaped incorporation with Prussia through the resolute opposition of Austria supported by France, but the little kingdom, like all the other states that had taken arms against Prussia, was forced to pay a heavy war indemnity. Even the little principality of Reuss had to pay 10,000 thalers into the fund for Prussian invalids. The states n. of the Main which had taken up arms against Prussia were completely incorporated, viz.: Hanover, Hesse-Cassel, Nassau, Frankfort, and a small portion of Hesse-Darmstadt, as well as Sleswick-Holstein and Lauenburg; and the other states n. of the Main were united with Prussia in a confederacy of a more intimate nature than before existed, called the North German confederation.

Austria, by the treaty of Prague (1866, Aug. 23), was completely excluded from participation in the new organization of the German states, and formally agreed to the surrender of Venetia to Italy, to the incorporation of Sleswick-Holstein with Prussia, and to the new arrangements made by Prussia in G. A portion of the fifth article of this treaty secured that "if the inhabitants of the n. districts of Sleswick declare by a free vote their desire to be united to Denmark, they shall be ceded accordingly;" but this was withdrawn in 1878 by secret treaty between Austria and G. Though losing no territory to Prussia, Austria had to pay [illegible] thalers for the expense of the war.

The North German confederation as thus constituted possessed a common parliament, elected by universal suffrage, in which each state was represented according to its population. The first or constituent parliament met early in 1867, and adopted, with a few modifications, the constitution proposed by Count Bismarck. The new elections then took place, and the first regular North German parliament met in 1867, Sept. [illegible]. According to the constitution, there was to be a common army and fleet, under the sole command of Prussia; a common diplomatic representation, confided of necessity to none else than Prussia; and to Prussia was entrusted the management of the posts and telegraphs of the confederation.

The southern German states which up to this point had not joined the league were Bavaria, Baden, Württemberg, Hesse-Darmstadt, and Liechtenstein, with a joint area of 43,900 sq. m., and a total population (1866) of [illegible]. But though these states were not formally incor bers of the bund, they were so practically, for they were bound to Prussia by treaties of alliance offensive and defensive, so that in the event of a war the king of Prussia would have at his disposal an **armed force of upward of 1,100,000 men.**

During the next few years the North German confederation was employed in consolidating and strengthening itself, and in trying to induce **the s. states to join** the league. The Zollverein (q.v.) was remodelled and extended, until by the year 1868 every part of G. was **a** member of it, with the exception of the cities of Hamburg and Bremen, and a small part of Baden. This paved the way for the formal entrance of the s. states into **the confederation; but they** still hung back, though the ideal of a united **G. was gradually growing** in force and favor.

In the spring of 1867 a war between Prussia and France seemed imminent, from difficulties arising out of the occupation of Luxemburg by the former; but by the good offices of the British government a congress of the great powers (Italy included) was assembled at London, **at which a**n arrangement satisfactory to both nations was amicably agreed upon, Luxemburg remaining in the possession of the king of Holland. It was evident, however, that hostilities had only been postponed, and on both sides extensive military preparations were carried on.

In 1870 the **long-threatened war between Prussia** and France broke out. On July 1 of that year the provisional government of Spain elected Prince Leopold, of Hohenzollern, a relative of King William of Prussia, to fill their vacant throne. This step gave the greatest umbrage to the French government, and though by the advice of William I. of Prussia, Prince Leopold resigned his candidature, it was not satisfied, but demanded an assurance that Prussia would at no future period sanction his claims. This assurance the king refused to give, and on July 15 the **emperor of the French proclaimed** war against Prussia. Contrary to the expectation of France, the southern German s**tates at once decided** to support Prussia and the northern states, and placed their armies, which were eventually commanded by the Crown Prince of Prussia, at the disposal of King William.

By the end of July the forces of both countries were congregated on the frontier. Napoleon, however, lost a fortnight in delays after the declaration of war, and it was discovered that the French army was by no means in a state of satisfactory preparation, while the Germans were splendidly organized, and much superior in number. The result was that the French, instead of marching **to Berlin as** they anticipated, never crossed the Rhine, and had to fight at a disadvantage in Alsace and **Lorraine.**

On Aug. 2 the French obtained some trifling success at Saarbrück, but the [illegible] battles of Weissenburg, Aug. 4, Wörth, and Spicheren, Aug. 6, were [illegible] German victories. The German advance was hardly checked for a moment, though the losses [illegible]. The battle of Gravelotte, at which King William commanded in person, was fought on the 18th; and, though the Germans suffered enormous loss, they were again victorious, and Bazaine was forced to shut himself up in Metz. The Emperor Napoleon and Marshal MacMahon then attempted to proceed to the relief of Bazaine. They were surrounded at Sedan and completely **defeated, with heavy loss. The emp**eror surrendered on Sept. 2 [illegible] was sent as a prisoner [illegible] the Prussians [illegible] Paris, and [illegible] after a severe bombardment. [illegible] Bazaine surrendered Metz, with [illegible] pieces of artillery, [illegible] Verdun capitulated on Nov. 8; [illegible] after which there were several capitulations [illegible].

The French [illegible] efforts to raise armies and relieve Paris [illegible] success on the Loire [illegible]. Of these may [illegible] and that [illegible] took [illegible] army of the [illegible] Switzerland [illegible]. France was condemned to pay a war indemnity of five milliards of francs, of

$1,000,000,000, and the province of Alsace, along with the German part of Lorraine, was ceded to Germany.

A very important result of the war was to complete the fusion of the n. and s. states of G. The s. states joined at once in the war against France; in 1870, Nov. Baden and Hesse leading the way, they all became members of the German confederation; and next month the re-establishment of the German empire was almost unanimously resolved, with the king of Prussia as hereditary emperor. It was at Versailles, on 1871, Jan. 18, that the king was proclaimed emperor of Germany.

The new German empire set vigorously to work to organize itself as a united federation, under the skilful leadership of Prince Bismarck, who was appointed Reichskanzler or Imperial Chancellor. Almost at once it found itself involved in the ecclesiastical contest with the Church of Rome, known as the Kulturkampf, which had previously begun in Prussia. The origin of the struggle was an effort to vindicate the right of the state to interfere somewhat intimately, with the behavior, appointments, and even educational affairs of all religious societies in the country. The Jesuits were expelled in 1872, the Pope Pius IX. retorted by declining to receive the German ambassador. The famous Falk or May laws were passed in Prussia in 1873-4-5, and some of their provisions were extended to the empire. Several German prelates, refusing obedience were expelled from G.; and the disorganization in ecclesiastical affairs became so serious that the reichstag passed a law in 1874 making marriage a civil rite. The pope issued an encyclical declaring the Falk laws invalid, and matters seemed for a time to be at a deadlock. On the election of a new pope, Leo XIII., in 1878, attempts were made to arrange a compromise between the empire and the papal see. Falk, the Prussian Kultus minister, resigned in 1879, and certain modifications were made in the obnoxious laws in 1881-3. Bismarck took a further step toward Canossa in 1885 when he proposed the pope as arbiter between G. and Spain in the dispute as to the possession of the Caroline Islands; and he practically owned himself beaten in the concession which he granted in revisions of the politico-ecclesiastical legislation in 1886-7. Another semi-religious difficulty which demanded government interference was the social persecution of the Jews, Judenhetze, which reached a climax in 1880-1.

In more strictly political affairs the rapid spread of socialism excited the alarm of the government. Two attempts on the life of the emperor (in 1878, May and June) were attributed more or less directly to the social democrat organization, and gave the signal for legislative measures conferring very extensive powers upon the administration to be used in suppressing the influence of socialism. These socialist laws, though limited in duration, have invariably been renewed (sometimes with added stringency) before their validity expired; in 1889 several of the most important towns of the empire were in what is called the minor state of siege for police purposes, and a new permanent socialist law was proposed by government in Oct. of that year. A plot, happily futile, to blow up the emperor and other German rulers at the inauguration of the National Monument in the Niederwald in 1883 was considered by government to justify its repressive measures. Prince Bismarck, however, was not content with repressive measures; he has endeavored by improving the condition of the working-classes to cut the ground from beneath the feet of the socialistic propagandists. The acknowledgment in the emperor's message to the reichstag in 1881 that the working-classes have a right to be considered by the state was followed by laws compelling employers to insure their workmen in case of sickness and of accident, and by the introduction (1889) of compulsory insurance for workmen against death and old age—measures that have been by some called state-socialism.

The energetic commercial policy of government also, which since 1879 has been strongly protectionist, has its springs in similar considerations; and the colonial policy, which began in 1884 with the acquisition of Angra Pequena, may be considered to be stimulated partly by the desire to gratify the national self-respect, and partly to provide new outlets under the German flag for the surplus population, and new markets for the German manufactures. None of the German colonies as yet, however, either in Africa or the Pacific ocean, have proved of any great importance. The assembling of the Congo Congress at Berlin (1884-5) first marked G.'s admission to the list of colonial powers. On the development and improvement of the army and navy the German government has bestowed the most unremitting care, urged especially by the attitude of the 'Revanche' party in France, though hitherto the imperial policy has been entirely pacific.

Considerable parliamentary friction has been caused more than once by the unwillingness of the reichstag to vote military supplies to the amount and in the manner demanded by the emperor and chancellor. The latter desire to have practically a free hand in military matters, while the national parliament seeks to exercise a constitutional control over the army, resembling that illustrated in Great Britain by the annual Mutiny Act. A compromise was effected in 1874 in virtue of which the military strength was fixed and the supplies granted for periods of seven years at a time. In 1886 the government proposed to terminate the current Septennat in 1887 instead of in 1888, and to immediately add largely to the peace strength of the army. On the rejection of the bill the reichstag was dissolved (1887, Jan.) by the emperor and an appeal made to the country. The Iron Chancellor still possessed the confidence and the gratitude of the people, and the new elections in 1887, Feb., resulted in a crushing defeat for the opponents of the government, notably the freisinnige and the social democrats. One of the most remarkable features of this election was a letter written by the pope in favor of the army bill, for which he subsequently received a *quid pro quo* in a further modification of the May laws. The military septennate bill was immediately passed, and was followed in 1888 by a military organization bill, which made several changes in the conditions of the service in the landwehr. The subsequent budgets show an enormous increase in the extraordinary military expenditure. While thus seeking peace while preparing for war, G. has not failed to use diplomacy for the same end.

A personal meeting of the emperors of G., Austria, and Russia in 1872 was considered a proof of a political alliance (Dreikaiserbund); and, when Russia drifted somewhat apart from G. in 1878, an offensive and defensive alliance was formed between Austria and G. in 1879. Italy afterward entered this triple alliance. G.'s influence on the eastern question was recognized in 1878, when the plenipotentiaries of the powers at the congress of Berlin.

On 1888, March 9, the Emperor William I. died. His son Frederick, at that time suffering from a cancerous affection of the throat, immediately issued a proclamation, in which he promised to consider 'new and unquestionable national needs,' and it was understood and to some extent felt that a more liberal era had commenced. The new emperor, however, died on June 15, and William II., his son, who succeeded, at once recurred to the policy of William I. and Prince Bismarck. Much painful excitement was caused by a medical dispute as to the nature and cause of the late emperor's fatal illness, which speedily developed into a party question, discussed on both sides with virulent acrimony. The impetuous character of the young emperor, and his determination to engage on the traditional Hohenzollen monarchical absolutism, some of the newest and most radical schemes of paternal socialism, led inevitably to a rupture between him and the great reichskanzler. On 1889, March 18, Prince Bismarck's resignation of the office of chancellor of the empire, Pres. of the Prussian ministry of state, and minister of foreign affairs was accepted, and Gen. von Caprivi was appointed reichskanzler in his stead. The emperor made the retired chancellor a field marshal of the army, and offered him the dukedom of Lauenburg and the continuance of his official salaries; the field marshalship he accepted and the others he declined.

The new chancellor has developed considerable ability, and the recent commercial policy carried out by him at the instigation of the emperor by which the members of the Dreibund have been included in a zollverein or Austrian union must be applauded as a shrewd political move. The latter part of 1888 and the year 1889 were devoted by the young emperor to visiting the courts of several of his fellow sovereigns in Europe. G. continued to extend her colonial empire, not, however, without coming to blows with the natives; and in Samoa became temporarily involved in hostilities with one of the chiefs. Difficulties on the e. coast of Africa led in 1888 to a blockade by the British and German fleets to prevent the importation of arms, and to check the slave trade. This lasted until 1889, Oct.

See Monumenta Germaniæ Historica, edited by Pertz, Waitz, etc., a national work begun in 1826 and still unfinished; Deutsche Geschichte, by Dahn, Dove, etc., in Giesebrecht's Geschichte der Europäischen Staaten (Gotha, 1883 et seq.); W. Menzel, Geschichte der Deutschen (5th ed. 3 vols. Stutt. 1855; Eng. trans. Lond. 1848-9); D. Müller, Geschichte des Deutschen Volks (11th ed. Berlin, 1884); Stacke, Deutsche Geschichte (Leip. 1880-1); Treitschke, Deutsche Geschichte im 19ten Jahrhundert (5 vols. Leip. 1879 et seq.); Ranke, Deut. Geschichte im Zeitalter der Reformation (6th ed. 6 vols. 1880-2; Eng. trans. 1845-7); Müller's Politische Geschichte der Gegenwart (an annual historical register; with a résumé translated into English by Peters, 1876). Also works by Luden, K. B. Menzel, Leo, Waitz, Souchay, Sugenheim, etc.; see also under FREDERICK THE GREAT, THIRTY YEARS' WAR, BISMARCK, and other special articles.

Works in English: J. Bryce, Holy Roman Empire (7th ed. 1884); J. Sime, History of Germany (1874, in Freeman's Historical series); C. T. Lewis, History of Germany (1874); S. Baring Gould, Germany, Present and Past (2 vols. 1879); Baring Gould and Gilman, Germany (1886, Story of the Nations series); S. Whitman, Imperial Germany (1889); Official (German) Account of Franco-German War, translated by Major Clarke (1872-84); Seeley's Life of Stein (1879); and see under special articles.

Language and Literature. The numerous dialects which were spoken by the different confederacies and tribes of ancient G. were all derivatives from one branch of the Aryan or Indo-Germanic family of languages, which separated from the parent stock at a very early period, although subsequently to the separation of the Celtic. We can trace the co-existence of the two branches of Teutonic speech known as Low German and High German as far back as the 4th cent., but there is no evidence to show that they existed as common uniform languages, from which their variously modified dialects were respectively derived. According to Max Müller, there never was *one* common Teutonic language, which diverged into two streams; while the utmost we can venture to assert in regard to the various High and Low German dialects is that they respectively passed at different times through the same stages of grammatical development. The High German branch—which was spoken in the dialects of Swabia, Bavaria, and Franconia—may be classified under three periods: the Old High German, dating from the 7th cent. and extending to the period of the Crusades, or the 12th cent.; the Middle High German, beginning in the 12th cent. and continuing till the Reformation; and the New High German, dating from Luther's time to our own days. This New High German does not represent the victory of any one High German dialect over the others. It is rather the result of a compromise, which arose in the public tribunals of the empire. Luther found this compromise speech best suited to his purpose in translating the Bible, and his selection of it effectually confirmed it in its literary supremacy. The chief modern High German dialects are the Bavarian, spoken with variations in Bavaria, Salzburg, Tyrol, Upper and Lower Austria and Stryia; Swabian, spoken in Würtemberg and the adjacent parts of Bavaria; and the Alemannic, spoken in Alsace, the S. of Baden, and German Switzerland. The Saxon, Thuringian, Silesian, Franconian, and other High German dialects are grouped together as Middle German dialects. Each of these has a living literature of its own. Low German embraced two main branches, Lower Franconian and Old Saxon. The former, in which we have a fragment of a 9th cent. translation of the Psalter, developed a tolerably rich literature in the 13th cent., which subsequently gave birth to the Dutch and Flemish tongues. The oldest literary monument of Old Saxon also belongs to the 9th cent.; it is a Christian epic known as Der Heliand (q.v.), i.e. The Healer or Saviour. Old Saxon developed into Middle Low German after the 13th cent., with a copious enough literature, of which Reineke Vos (circa 1490), translation from the Dutch branch, is the most important relic, and there are traces of popular Low German literature down to the 17th cent. The chief extant dialects are the Frisian (q.v.) and Platt Deutsch (q.v.). In addition to the various dialects which are commonly included under the heads of High and Low German, an important evidence of the cultivation of a form of German differing equally from the High and Low groups has been preserved to us in the Gothic translation of the Bible which was made in the 4th cent. by Bishop Ulfilas. See GOTHS; PHILOLOGY.

The diffusion of Christianity among the Germanic tribes had the effect both of suppressing the use of the Runic characters that had been common to them and of changing the character of their literature, for, instead of the heroic sagas and beast-epics, [illegible] epics of a sanguinary paganism, scriptural paraphrases, legends and hymns were now selected, while the ancient system of alliterative by degrees gave place to the rhyming arrangement of the Latin versification common in the early periods of the middle ages. Charlemagne himself made a collection of German popular poetry, and under his successors in the 9th and 10th cents. some of the heroic epics dating from heathen times were written down (e. g. the Hildebrandslied), while the matter of others received a Latin dress at the hands of monkish poets. Under the Saxon emperors Latin became the language of the court, the church and the law, while German was left entirely to the people, down to the first flourishing period of German poetry under the emperors of the Hohenstaufen line. The Italian wars of this dynasty, the stirring events of the crusades, and the intercourse with the chivalry of France and Italy kindled a love for literature and romance in the princes and nobles of G. The vernacular dialects were once more used for literary purposes, especially the Swabian or court speech. Many, both nobles and men of lower degree, belonged to the order of the Minnesänger (or Singers of Love), who roamed from castle to castle and from court to court, exhausting their ingenuity in devising new presentments of their usual subject, the romantic passion of love, and in inventing new and elaborate forms of versification. The epic subjects chiefly selected during the 13th and 14th cents., by both courtly and popular singers, were based on the history of Troy, the deeds of Alexander the Great, the legendary lore of Charlemagne and his paladins, and King Arthur and his knights, and of the Sangrael; and it is to this period that we must refer the Nibelungen Lied and Gudrun, which rank as the greatest treasures of German national literature. It was to these tales of Parzival, Lohengrin, and the Nibelungen that Richard Wagner turned in his efforts to create a national school of music drama in the 19th cent. Among the most successful romantic and epic poets and minnesingers belonging to the Swabian period we may specially indicate Heinrich von Veldeke, Gottfried of Strasburg, Ulrich von Lichtenstein, Hartmann von der Aue, Neidhart of Bavaria, Wolfram von Eschenbach, Walther von der Vogelweide and Heinrich von Ofterdingen. The Krieg auf der Wartburg, which has been classed among the didactic poems of this age, relates a mythical contest of poetic skill between the three last named. The taste for the Thier-epos received a new impetus among the people in the middle of the 12th cent. by the re-translation, from the French into German, of the ancient poem of Reinhard Fuchs, which according to the distinguished philologist Jakob Grimm, originated with the Frankish tribes, who carried it with them when they crossed the Rhine and founded an empire in Gaul, and from whom it was diffused among the neighboring tribes of n. France and Flanders. German now began to be used for public proclamations and in collections of laws, of which the Saschenspiegel (1230) and the Schwabenspiegel (1270) are the most noteworthy.

The period which succeeded the decline of chivalry was marked by a thorough neglect, among the higher classes, of national literature, which thus fell into the hands of the people. Yet some few chronicles, among which may be mentioned those of Limburg, Alsace, and Thuringia, were composed in the century from 1330 to 1430. This was the age of the Meistersinger or artisan poets, who formed themselves into guilds, like their trade guilds, and composed their verses in conformity with the strict guild rules. 'Meistergesang' was at its zenith at the era of the Reformation, its most famous representative was Hans Sachs, the shoemaker of Nuremberg, who also wrote epics, fables and dialogue pieces. The most honorable place among the pioneer cultivators of German prose writing belongs to Meister Eckhart, Tauler, Suso, and their followers, the mystics. To this age belongs also the great mass of the Volkslieder, or national ballads, in which is specially noted the fables and satires of Brandt (Narrenschiff, or Ship of Fools) and Mürner and the romances of the satirist Johann Fischart. Most of the Volksbücher too, such as Die Melusine, Die Haimonskinder, Kaiser Octavianus, Wigalois, Tyll Eulenspiegel, Dr Faust and Die Schildbürger, were written in the 15th and 16th cents. to meet the demand of the people for imaginative literature. The mysteries and passion plays which were at their height in the 14th cent., and still linger at Oberammergau, in Upper Bavaria, and one or two other places, may be said to have given origin to the German drama, which numbered among its earliest cultivators Sachs, Rosenblut and Ayrer. The close of the 15th cent. produced several satires of the clergy and bitter [illegible] theological writings for and against the [illegible] power of the Romish church.

The writings of Luther, particularly his translation of the Bible, which fixed a literary standard for the Germans, and the works of Ulrich von Hutten, Zwingli, and of many of the other reformers were, however, the most important events in the history of German literature from the close of the 15th to the middle of the 16th cent. But

Luther addressed himself to the minds of his countrymen not merely through his polemical writings, but also by those noble hymns which, since his day, have constituted one of the greatest literary treasures of the kind. Many beautiful kirchen lieder, or church songs, were composed during the next centuries; to the 17th belong those of Gerhardt, Franck, and Scheffler, who may be counted among the best hymn-writers of G. Nor should the Roman Catholic hymns of Angelus Silesius be passed over. The example of Luther as a writer of prose German was laudably followed by Sebastian Franck in his historical books, by the mystic Jacob Böhme, and Arndt, the most widely read religious writer of the 16th century.

The fervent effusions of the devout and eloquent reformers were followed by a period of literary degeneration and stagnation, which is in a great measure to be ascribed to the demoralizing effects of the Thirty Years' War, when G. was a prey to all the evils inseparable from civil strife, fostered by foreign interference. The indirect result of this period of anarchy was to quench the national spirit and vitiate the popular taste; for, while the petty courts aped the habits, language, and literature of Versailles, the lower orders forgot their own literature, with its rich treasures of legends, tales, and ballads, and acquired a taste for the coarse camp-songs imported by foreign mercenaries, and the immoral romances borrowed from impure French and Italian sources. Almost the only names that break this barren wilderness are Moscherosch, a satirist; Grimmelshausen, who has left vigorous pictures of the Thirty Years' War; and Abraham a Sancta Clara, a satirical preacher, possessed of both wit and humor.

What is known as the first Silesian school of German poetry was formed under the influence of the correct but cold Opitz (1597-1639); and he was staunchly supported by the lyric poet Fleming and the epigrammatist Logau. The succeeding second Silesian school, headed by Hoffman von Hoffmanswaldau, sought inspiration in the inferior Italian poets, and produced affected and extravagant pastorals. But, on the whole, the study of the national literature was neglected, and, although a host of learned societies were formed whose professed object was to purify and elevate the public taste, the results were lamentably unsatisfactory. The poems of Hagedorn (1708-54) and Haller (1708-77) struck a truer and more natural note. But it was not till Gottsched (1705-66) succeeded, in his Critical Art of Poetry, in drawing attention to the turgid pedantry and artificial stiffness of the classicist school that a better taste was awakened. In opposition to the Leipzig school, of which Gottsched was the centre, there arose the Swiss or Zurich school, in which Bodmer and Breitinger were the leaders. An adverse criticism by Gottsched of Bodmer's translation of Paradise Lost precipitated a controversy, known as the Bodmer Streit. The Leipzig school attached all importance to the purely intellectual and mechanical correctness of poetry; while Bodmer and his disciples considered rather the imaginative and emotional elements. As more or less the outcome of this contest arose the Saxon school, the leading member of which was the hymn-writer and fabulist Gellert, who for some years posed as the literary dictator of G.; the Halle school with Gleim at its head; and the German æsthetic school, under the guidance of A. Baumgarten.

In the end of the 17th cent. German philosophy first lifted up its head in the writings of Leibnitz, C. Wolf, and Thomasius. Rabener and other contributors to the Bremer Beiträge, a group of lyric and dramatic writers who flourished in the beginning of the 18th cent., were perhaps the first to bring literature again into immediate touch with popular life. But it is with the names of Klopstock, Lessing, Wieland, and Herder that the brilliant epoch of modern German literature begins. Their influence was alike great and varied; for, while Klopstock's poem of the Messiah, and his Odes, in which he had taken Milton as his model, re-echoed the tender piety of the old reformers, and were so thoroughly German in their spirit that they at once met with an enthusiastic response in the hearts of the people, Lessing's comedy of Minna von Barnhelm and his drama of Nathan der Weise may be said to have created anew the dramatic art in G. Wieland, on the other hand, was the complete antithesis of Klopstock, although, like Klopstock and Lessing, he was the founder of a new style. He gave a graceful flexibility to German diction which it had never before been made to assume, imparted to his numerous tales and romances an undisguised sensuous materialism, which, like his style, had been borrowed from the French philosophers of his day, and thus introduced into the language and literature of G. the germs of many defects, as well as graces, to which they had hitherto remained strangers. Herder is the typical representative of those who resorted for their inspiration to the simplicity of the Volkslieder, and the poetry of nature and of the Orient. His predominant tendencies are indicated in his favorite motto, 'Light, love, light.' And he also did admirable work as a philosopher and critic. In fact, his philosophical *critiques* of foreign and German literature contributed materially to the complete literary revolution which ushered in the modern period of German poetry. The influence exerted on German literature by these writers, who may be regarded as its regenerators, was soon appreciable in every branch of knowledge. The Swiss Salomon Gessner shows some literary kinship with Klopstock in his sweetly sentimental idylls. Blumauer and Kortum, seeking to perpetuate the irony of Wieland, made travesty of more serious effusions. And it was in the same vein, but seasoned with stronger satire, that Lichtenberg wrote. From the impulse communicated by Lessing came the critical æsthetic writings of Winckelmann, and the books of men like Zimmermann (author of On Solitude) and Moses Mendelssohn. The aims which Herder had set before him were adopted by a band of writers whose chief characteristics conferred upon the age they lived in the name of the 'Sturm-und Drang' period. But the poetic spirit raged in them too violently and refused to be subjected to the laws and restraints of artistic production. Klinger, one of whose dramas gave title to the school, and 'Maler' Müller were the champions of the movement. Hamann, in spite of his oracular and enigmatical utterances, had much in common with this school, though he did not belong to it.

Among the galaxy of great names which have imparted renown to the literary and scientific annals of G. during the last hundred years we can only instance a few of the principal writers who have more especially enriched the several departments of learning with which they have been associated. Philosophy, which originated, as stated, with Leibnitz, (1646-1716), who, however, wrote in Latin and French, assumed a degree of individuality and completeness through the intellectual acumen and subtle analysis of Kant, Fichte, Schelling, and Hegel which have no parallel in any other country. Other names worthy of mention in this department are Fries, Jacobi, Herbart, Schopenhauer, Zeller, Feuerbach, Baader, Ed. von Hartmann, Lotze, Haeckel, Fechner, Wundt, and Pfleiderer. In theology Reinhard, Paulus, Schleiermacher, De Wette, Marheineke, Neander, Julius Müller, Lucke, Baur, Strauss, Möhler, Döllinger, Ewald, Hase, Lipsius, Dorner, Ritschl, Wellhausen, Holtzmann, and a host of others have infused new life into biblical inquiry. Invaluable results have been attained by the philological and critical researches of F. A. Wolf, Hermann, Müller, J. and W. Grimm, Bopp, Lassen, Gesenius, Schlegel, W. Humboldt, Lepsius, Bunsen, Von der Hagen, Lachmann, Simrock, Moritz Haupt, Benfey, Pott, Schleicher, Steinthal, Diez, etc. In archæology, history, and jurisprudence all nations owe a debt of gratitude to Winckelmann, Heeren, Lobeck, Von Raumer, Schlosser, Von Hammer, Gervinus, Dahlmann, Waitz, Ranke, Bluntschli, Niebuhr, Mommsen, and Duncker.

In poetry and belles-lettres the name of Goethe is a host in itself. In his Leiden des Jungen Werther ('The Sorrows of Young Werther') he carried the sentimental tendencies of the Sturm-und Drang school to their culminating point; but his own later and very numerous works became in time more and more free from its blemishes, and rose to an almost Olympic calm, a Hellenic strength, and grace, and proportion. In Goethe's middle period he was intimately associated with Schiller, (1759-1805), whose early works, The Robbers, Fiesco, and Don Carlos, threw the whole German people into a frenzy of excitement. Schiller's later dramatic works, if less exciting than these, gave evidence of more matured taste, while some of his ballads and lyrics may be said to stand unrivaled. The tendency of the German poets for drawing together into schools was again exemplified in the case of the Göttingen Dichterbund, formed at Göttingen about 1770. Its leading spirit was Voss, better known for his translation of the Homeric poems than for his idyllic Luise. With him were associated more or less closely Bürger (author of Lenore), Hölty, the two Counts Stolberg, and Claudius. They took Klopstock for their high priest, and sang of friendship, love of country, and all high and noble ideals. Among the works of prose fiction which appeared soon after this period are the novelettes of Zschokke, the romantic tales of Vulpius, the artistic romances of Heinse, and the humorous romances of Hippel and J. G. Müller. Iffland attained great reputation as a writer of sensational dramas, and Kotzebue as an inexhaustible composer of light effective comedies.

The romantic school, which succeeded the Sturm-und-Drang period, found for a while its inspiration in the medieval romances and in Shakespeare, admirably translated by Schlegel and Tieck. Its chief representatives and defenders were A. W. Schlegel, Friedrich von Hardenberg, better known as Novalis (1772-1801), Tieck, Fr. Schlegel, Schelling, and Wilhelm von Humboldt. Kleist is the chief dramatist of the school. Among the writers who were smitten with the same tendencies are the poet Hölderlin, and De la Motte Fouqué, E. T. W. Hoffmann, and Chamisso, who loved to dwell on the mysterious agencies of nature, which they attempted to individualize and bring into association with material forms, as in the Undine of the first, the fantastic tales of the second, and the Peter Schlemihl of the third. Jean Paul Richter, the satirist and humorist, though sometimes included in the romantic school, in reality occupies a position apart from and far above his compeers; and few novelists ever exerted so lasting an influence on the literature and mode of feeling of their compatriots as that which Richter exercised over the minds of the middle classes of G. during the close of the last and the early part of the present cent. Poetry has also found noble representatives in the so-called Vaterlandsdichter (Poets of the Fatherland), among whom we may instance Theodor Körner and Arndt, whose spirited patriotic songs are intimately associated with the war of 1813 against Napoleon, in which the former fell fighting gloriously. Rückert and Uhland belong to the same school; but the former is more especially known for his admirable adaptations and translations from oriental languages, and the latter for his exquisite romances and ballads.

The public taste in fiction still encouraged the production of sentimental tales, in a sickly style, of which Clauren may be mentioned as an example, chiefly on account of the ridicule directed against him by the novelist Hauff, the champion of a healthier taste. Spindler, Willibald Alexis (W. Haring), whose Walladmor and other books are imitations of Walter Scott, and Caroline Pichler also belonged to a sounder and more artistic school. Raupach occupied the stage with his historical tragedies and his comedies, rivalled in S. G. by Baron von Auffenberg, and on the Rhine by Immermann, known also as the author of the romance Münchhausen. **Adolf Müllner and** Grillparzer are also important names in the later history of the German drama.

The decade 1830-40 is usually spoken of in German literary histories as the period of 'Young Germany,' a period of gifted but somewhat immature striving for independence and free self-development. Count Platen in his odes, sonnets, comedies, etc., represents the transition to this era, of which Karl Gutzkow, Börne, and Laube may be taken as characteristic representatives. But the greatest name of this time is that of Heinrich Heine, who ranks with Goethe and Schiller for lyrical power, and at the same time is master of an almost matchless prose style. Menzel signalized himself by his attacks upon Goethe, Heine, and Gutzkow. Auerbach may be regarded as the creator of the Dorfgeschichte or village story, in which he has been followed by Maximilian Schmidt and Anzengruber. The sombre and sentimental Lenau (Niembsch von Strehlenau) is perhaps the chief name of the later Austrian school, which includes Count Auersperg (Anastasius Grün), Karl Beck, Moritz Hartmann of Bohemia, and A. Meissner. Emanuel Geibel, even yet one of the most popular lyric poets in G., was the head of the band of poets who assembled round King Maximilian of Bavaria, among whom also were Dingelstedt, Bodenstedt (whose exquisite poems in the oriental style were published under the *nom de guerre* of Mirza Schaffy), and Paul Heyse. Gottschall wrote epic poems as well as dramas. Hebbel and Grabbe were both dramatists of vigorous but ill-disciplined power. Prutz, Hoffmann von Fallersleben, Schulze, Herwegh, Hebel, Freiligrath (peculiarly skilful as a translator of English, Scottish, and French poetry), Schefer, Schack, Hamerling, and Leander Volkmann may also be mentioned among recent writers; Freiligrath and Hamerling have done better than average work as poets. Among modern epic poets are Jordan (Die Nibelungen), Kinkel, Redwitz (Amaranth), Otto Roquette (Waldmeister's Brautfahrt), Scherenberg, Böttger, and Victor von Scheffel (Trompeter von Säkkingen). Many of these are also dramatists; others are Halm (Baron Münch-Bellinghausen), Moser (a 'second Kotzebue'), Freytag, Ernst von Wildenbruch, Fitger, and Anzengruber. Paul Lindau has made a success as a writer of neat comedies; and in even slighter work Benedix, Töpfer, Blum, etc. are well-known names. Fiction in G., as with ourselves, has been developed to an enormous extent in the present cent., and no more than a few of the most prominent names can be here mentioned. Ida von Hahn

Hahn, Fanny Lewald, Johanna Schopenhauer, Von Hillern, and E. Marlitt are among the best known of the lady-novelists, who have recently been joined by "Ossip Schubin" (A. Kirscher). Gustav Freytag, one of the oldest, is still the most eminent of living novelists. Spielhagen, Hackländer, Gottschall, Gerstäcker, Paul Heyse, Charles Sealsfield, Ebers, Dahn, Scheffel, Lindau, Gottfried Keller (a Swiss), Oskar Meding (Samarow), Franzos, and George Taylor (Hausrath) have all in turn enjoyed wide popularity, to which some of them are still adding. Low German has been elevated to the dignity of a literary tongue by Fritz Reuter, one of the greatest, if not the greatest, of German humorists, and by Klaus Groth.

But numerous as have been writers of poetic and dramatic literature during the present cent. in G., the tendency of the German mind has of late years been rather to science than fiction. The immense impetus given to the taste for scientific inquiry by A. v. Humboldt's Travels, and by his Cosmos and Views of Nature, has been followed by the appearance of a multitude of records of travel, among the more important of which we can only instance those of Martius in Brazil, Pöppig in South America, Tschudi in Peru, Lepsius and Brugsch in Egypt, Schomburgk in British Guiana, Gützlaff in China, Siebold in Japan, the brothers Schlagintweit in the Alps and in central Asia, Barth, Vogel, Rohlfs, and Schweinfurth in Africa, and Leichhardt in Australia.

In conclusion we can only group together the names of a few of the many eminent Germans who by their labors and researches in physical and natural science have at once enriched the knowledge of the world and enhanced the literary and scientific glory of their own country. Without again referring to writers who have been already mentioned, we may specially instance, in astronomy and mathematics, Bessel, Encke, Struve, Gauss, and Mädler; in the natural sciences and in medicine, Johannes Müller, Ehrenberg, Carus, Oken, Schleiden, Von Buch, Liebig, Kopp, Simon, Dove, Virchow, Moleschott, Bischoff, Rose, Vogt, Werner, Poggendorf, Erdmann, Gmelin, Graefe, Vogel, Rokitansky, Wagner, Schönbein, Helmholtz, Haeckel, Mitscherlich, W. Weber, Kirchhoff, Neumann, Du Bois Reymond, Hahnemann, Hufeland, Von Baer, and Dieffenbach; in history, archæology, and biography, Leo, Duncker, Curtius, Giesebrecht, Sybel, Treitschke, Becker, Boeckh, Preller, Creuzer, Jacobs, Wachler, Kuno Fischer, Preuss, Böttiger, Varnhagen v. Ense, Pertz, Lappenberg, Pauli, etc.; in geography, ethnology, statistics, politics, etc., Berghaus, Ritter, Petermann, Stein, Hübner, Klöden, Kohl, Bunsen, Bastian, Ideler, Zachariä, Gentz, Gneist, Ruge, Roscher, Schäffle, Riehl, Lassen, Unger, Zimmermann, and Otto Peschel; in law and jurisprudence, Savigny, Thibaut, Eichhorn, Pütter, Waitz, Feuerbach, Grolman, and Mittermaier; in the history of æsthetics and the fine arts, Fr. Vischer, Carrière, R. Zimmermann, Weisse, Schasler, Ed. Müller, Waagen, Kirchmann, and Lübke.

The genius of her musicians has placed G. at the head of the musical world. Such names as Seb. Bach, Handel, Gluck, Mozart, Haydn, Beethoven, and P. E. Bach in the 18th cent., and Schubert, Spohr, Weber, Mendelssohn, Schumann, Brahms, Liszt (though a Hungarian by birth), and Wagner in the 19th, are known to all who take an interest in the art of sweet sounds. In connection with this subject the writings of Helmholtz, Köstlin, Ehrlich, Schumann, Wagner, and Liszt should be noticed.

Detailed accounts of the lives and literary careers of the principal writers, such as Goethe, Heine, Herder, Reuter, Richter, Schiller, etc., will be found under their several names. See also such articles as [illegible], BIOGRAPHY, DRAMA, MUSIC, PHILOSOPHY, PLATT-DEUTSCH, ROMANTICISM, and for the German printed character, BLACK LETTER.

Lexicography.—The standard authority on German Lexicography is the great Deutsches Wörterbuch, begun in 1852 by the brothers Grimm, and still in progress under the care of Moriz Heyne, Rudolf Hildebrand, Matthias Lexer, Karl Weigand, and E. Wülcker. Admirable works are the Dictionaries by D. Sanders (1860-5) and Kluge ([illegible]), and the smaller books by Sanders (2d ed. [illegible]) and Weigand (4th ed. [illegible]), the latter the best of all the smaller dictionaries. Other successors of the Grimms were Hoffman von Fallersleben, Uhland, Schmeller, Graff, Massmann, W. Wackernagel, M. Haupt, R. v. Raumer, Fr. Pfeiffer, Holtzmann, Müllenhoff, Zarncke, Bartsch, Weinhold, Paul, and Sievers, as well as, in the wider sense, Bopp and [illegible]. A few special books that may merely be named are Lexer's Mittelhochdeutsches Handwörterbuch (1869-78), Diefenbach and Wülcker's Hoch- und Nieder-Deutsches Wörterbuch der Mittleren und

Neueren Zeit (1874-85); O. Schade's Altdeutsches Wörterbuch (2d ed. Halle, 1873-81); Grimm's Deutsche Grammatik edited by W. Scherer (Berlin, 1869-78); H. Rückert's Geschichte der Neuhochdeutschen Schriftsprache (1875); R. v. Raumer, Geschichte der Germanischen Philologie (1870); Trömel, Die Litteratur der Deutschen Mundarten (bibliographical, Halle, 1884); and Strong and Meyer's History of the German Language (1886.)

Literature. See W. Scherer's Geschichte der Deutschen Litteratur (Berlin, 1883), of which the Clarendon Press at Oxford has published a translation (2 vols. 1886); Koberstein's Grundriss der Ges. der Deut. Nationallitteratur (6th ed. 5 vols. Leip. 1872-4); Vilmar's Gesch. der Deut. Nationallitteratur (22d ed. 2 vols. 1885); Stern's Lexicon der Deutschen Litteratur (1882); and works by Wackernagel, Kurz, Gervinus, (German poetry), Goedeke (poetry), Roquette, Koenig (illustrated), and Gottschall; for literature of 18th cent., Hettner Hillebrand and Biedermann; for liturature of 19th cent., Julian Schmidt, Taylor of Norwich, Coleridge, De Quincey, Carlyle, and Lewes did much to spread the taste for German literature in England. See also Metcalfe's Hist. of German Lit. (1858, based on Vilmar); W. Menzel's Hist. of German Lit. (trans. 4 vols. 1840); Bayard Taylor's Studies in German Lit. (1879); and Hallam's Lit. Hist. of Europe in the Middle Ages. Among more recent books are Gostwick and Harrison's Outlines of German Lit. (2d ed. London, 1883); A. M. Selss' Critical Outline of Lit. of Germany (trans. London, 1884); and W. M. MacCallum's Studies in High German and Low German Lit. (1889).

GRANADA, *grâ nâ' dâ*: an ancient Moorish kingdom of Spain, embracing the s.e. portion of Andalusia, and now divided into the three modern provinces of G., Almeria, and Malaga, the united areas of which amount to 11,052 sq. m., and the united population (1887) 1,328,161; (188[illegible]) 1,361,456. Except in the narrow strip of coast region along the Mediterranean, the surface is a succession of mountain and plateau rising in the centre to the snow-capped Sierre Nevada; but the soil is fertile, and the ancient G., which became an independent kingdom after the fall of the caliphate of Cordova in 1236, supported a population of 3,000,000, and sent 100,000 men into the field. From 1246 the Moorish kings were obliged to recognize the supremacy of the kings of Castile. A quarrel, however, which arose between the vassal king of G. and Ferdinand and Isabella in the 15th cent. resulted in a war of 11 years' duration, the result of which was the complete conquest of G. by the Spaniards in 1492, and the total destruction of Moorish authority in Spain.

The modern province of G. has an area of 4,928 sq. m., which includes the highest mountains in the peninsula, and one of the most picturesque regions of Europe. A great portion belongs to the basins of the Jenil and the Fardes (Guadiana Menor), tributaries of the Guadalquivir; the Guadalfeo and other streams flow into the Mediterranean. The climate is warm, but tempered by the snow-clad mountain ranges; the fruitful soil yields the products of both the temperate and subtropical zones. The rich deposits of salt, iron, lead, copper, zinc, sulphur, marble, and alabaster are not much worked, and though mineral springs abound, they are wholly neglected. The silk industry, formerly important, has nearly disappeared, and the manufactures are now chiefly weaving, sugar and brandy refining, etc.; and the trade of the province, hindered by a rock-bound, inhospitable coast and the absence of roads, is unimportant. Population (18[illegible]) [illegible]; (188[illegible]) 48[illegible].

Granada, the chief town of the province, and formerly capital of the kingdom, has sadly declined since the days of its Moorish masters, but still ranks as one of the larger cities of Spain. It lies at the foot of the Sierra Nevada, on and between two hills, the s. most being the site of the famous Alhambra (q.v.), and is 2,245 ft. above sea-level, and 126 by rail 150 m. e. by s. of Seville. It overlooks a fertile and extensive plain, and stands on the right bank of the Jenil, which is here joined by the Darro. The n. hill is occupied by the Albaicin, the oldest part of the town. The main part of the town lies in the plain to the w. of this, on both sides of the Darro, which is here mostly arched over; and the wide suburbs of Elvira and Antiquerucla stretch farther to the w. and n. The modern town is commonplace and dull, with wide streets, open squares, and many windowed houses, but the old houses, with their flat roofs, turrets, moss-colored awnings, balconies, and fountains, preserve still a half oriental aspect, and the labyrinths of narrow, tortuous, ill-paved lanes that for the most part pass for streets here and there offer picturesque views. The chief centres of commercial activity are the old and handsome square known as the Vivarrambla and the Zacatin, or old bazaar, a street which still retains much of the Moorish style. On the outskirts of the town there is a shady Alameda. G. is the seat of an archbishop, and has a university [illegible] attended by nearly 1,000 students. The cathedral, begun in 1529, is profusely decorated with jaspers and [illegible] the tombs of Ferdinand and Isabella, [illegible] fine specimens of Italian [illegible] sculpture, doubtfully attributed to Torrigiano. In the [illegible] of San [illegible] the 'Great Captain' Gonsalvo di Cordova [illegible] are inconsiderable. [illegible] The modern city of G. was founded by the Moors in the [illegible] from the ruins of an [illegible] to distinction as a [illegible] architecture. According [illegible] numbered 200,000 [illegible] the city was surrounded by a [illegible] towers, and had 70 [illegible] But this is more [illegible] for the worst ex[illegible] unfortunate. The Moors [illegible] of the [illegible] given up the [illegible] See Prescott's Ferdinand [illegible] of G. (18[illegible]); Lafuente y Alcantara, [illegible] 184[illegible].

GREAT BRITAIN.—1.

GREAT BRITAIN, *brit'-an*: under this head are noticed (1) the island of G. B. (its geology and geography); and (2) the United Kingdom of Great Britain and Ireland (its general statistics, etc.

Great Britain was so called to distinguish it from Britannia Minor, or Brittany, in France (see BRITANNIA). The name was a poetical or rhetorical expression till in 1604 James I. styled himself king of Great Britain, although the term was proposed in 1559 by the Scottish lords of the congregation. Lying between 49° 57′ 30″ and 58° 40′ 24″ n. lat., and between 1° 46′ e. and 6° 13′ w. long., G. B. is the largest island of Europe. It is bounded on the n. by the Atlantic, on the e. by the North sea, on the s. by the English channel, and on the w. by the Atlantic, the Irish sea, and St. George's channel. The most n. point is Dunnet Head, in Caithness; the most s., Lizard point, in Cornwall; the most e., Lowestoft Ness, in Suffolk; and the most w., Ardnamurchan point, in Argyllshire. Its greatest length is about 608 m., and its greatest breadth (from Land's End to the e. coast of Kent) about 325 m. while its surface contains 88,226 square miles.

Geology. The geology of G. B. is of peculiar importance. The fossiliferous strata having been first systematically studied and expounded here, British geologists have given to the world the names whereby most of the larger divisions and subdivisions of these strata are known. Nearly all the recognized 'systems' occur in Britain, although some of these are more fully represented elsewhere. Indeed, the only system not found in Britain is the miocene, the beds formerly classed as of this age being now included in the oligocene. British geology is no less important from the influence it has had in the development of the country. The mineral wealth, especially the coal and the iron, are the real sinews and muscles of Britain's mighty power. No other country has similar advantages in such an area. (See also the article on the geology of EUROPE.)

We shall, in this sketch of the distribution of the British rocks, follow the order of the strata, beginning with the lowest and oldest. It may be said that, in general, the mountainous regions of the n. and w. are formed of the oldest rocks, and that, as we move s.e., we gradually pass over newer strata, until, in the e. of England, we come to the uppermost divisions of the Tertiary.

The base rocks of the whole series occur in the outer Hebrides, in Rona, Tiree, and Coll, and along the w. shores of Sutherland and Ross. They are assigned to the Archæan system (q.v.), and consist chiefly of coarse gneiss, usually hornblendic, and various schists, with occasional crystalline limestones, the whole series being veined more and less abundantly with pegmatite. Small isolated areas of Archæan occur also in England (Charnwood Forest, the Wrekin, the Malverns). No fossils are met in any of the Archæan rocks.

The oldest fossiliferous strata in Britain belong to the Cambrian system (q.v.), and are well developed in Wales and Shropshire, attaining a thickness of more than 30,000 ft. They consist chiefly of dark red and purple sandstones, grits and conglomerates, with green slates and slaty shales. The fossils are not abundant, but show a remarkable variety of forms. In Scotland the Cambrian appears to be represented by the red grits, conglomerates, and sandstones which rest directly on the Archæan rocks of the outer Hebrides and the n.w. highlands.

The *Silurian System* (q.v.) occupies a large portion of the surface of the country. The typical rocks occur in Wales, extending over the w. portion of the principality from Pembroke to Denbigh, and including the n. portions of Pembroke, Carmarthen, and Brecknock, the whole of Radnor and Montgomery, the s.w. of Denbigh and the whole of the counties to the w. The oldest or Lower Silurian beds are next the coast. The series consists of great conformable thicknesses of shales, slates, grits and greywackes, with occasional limestones more or less pure. Large tracts have hitherto proved devoid of fossils; in other districts the strata [illegible] almost entirely composed of the remains of marine [illegible] which [illegible] abound in zoophytes and [illegible]. The lake districts of Cumberland and [illegible] of Westmoreland [illegible] strata are most extensively [illegible]. A line drawn from Dunbar to Girvan forms the n. limit of these beds in the s. of Scotland. Except the lower beds of the [illegible] the whole region from this line to near the base of the Cheviots [illegible]. The rocks are chiefly greywacke, with occasional beds of impure limestone. The chief fossils are graptolites, crustacea, brachiopoda and mollusca. The [illegible] of Westmoreland and Lancashire [illegible] of the Silurian [illegible] come Silurian rocks which are more or less metamorphosed. Up to recent years geologists believed with Sir R. I. Murchison that all the schists, etc., lying to the e. of the Cambrian and Archaean areas, and extending down to the borders of the lowlands in Strathmore, etc., were altered Silurian strata. Probably this is the fact, but the work of the geological survey in the n.w. highlands has suggested some doubts. A line drawn from Stonehaven to Helensburgh marks the southward range of those schists and slates, etc.

The *Old Red Sandstone System* (q. v.), consisting of conglomerates, coarse and fine grained sandstones, and dark colored flagstones and shales, with characteristic fossils of ganoid and placoid fish, overlies the Silurian in several districts in Scotland. Nearly all Caithness and the seaward portions of Sutherland, Ross, Cromarty, Inverness, Nairn, and Elgin, belong to these strata. A broad band, extending on the e. coast between Stonehaven and St. Andrews, stretches across the country to Helensburgh and Dumbarton on the w. The same strata appear again in Haddington, Berwick, and Roxburgh, in Lanark, and in Ayrshire. Old red sandstone likewise occurs in s. Wales and the neighboring English counties, extending from the Silurian district to the Severn and the Bristol channels, and containing in a large basin the s. Wales coal field. The highly fossiliferous strata of n. Devon, and of s. Devon and Cornwall (Devonian system) are believed to be on the same geological horizon as the old red sandstone. They consist of slates, sandstones, and limestones, and contain numerous corals and shell fish.

The *Carboniferous System* (q. v.) may be said to occupy a broad tract extending from the Bristol channel to the base of the Cheviots. The strata are not continuous between these limits, but are broken up in some places by the appearance on the surface of older strata, while in others they are covered by newer deposits. The various detached coal fields are (1) the s. Wales, in Glamorgan and Pembroke; (2) the Bristol, and (3) the Forest of Dean, in Gloucester; (4) the Forest of Wyre, in Worcester; (5) Shrewsbury, and (6) Coalbrookdale, in Shropshire; (7) n. and (8) s. Staffordshire; (9) Warwickshire; (10) Leicestershire; (11) Flint and Denbigh; (12) Lancashire; (13) York and Derby; (14) Cumberland; and (15) Northumberland and Durham. In the n. portion of this great tract of carboniferous strata, where the millstone grit and carboniferous limestone are largely developed, few seams of coal of any value are contained. The limestone in Derby is rich in metallic ores. The carboniferous strata of the n. of England extend beyond the Cheviots into Scotland, forming a narrow band from the Solway to the North sea in the counties of Dumfries, Roxburgh, and Berwick. The coal field in this district is one of small extent at Canonbie in Dumfriesshire. The carboniferous strata in Scotland, with the exception just stated, are confined to the immense trough between the Silurian and old red sandstone systems on the s. and the old red sandstone of the n., which is completely occupied by them, except where the underlying older strata rise to the surface. [illegible] of sandstone and limestone without coal break up the coal-bearing beds into the following coal fields: the Midlothian, the Fife, the Lanark and Stirling, the Ayrshire, the Sanquhar in Dumfriesshire. Besides coal, the whole of the carboniferous series contains numerous strata of argillaceous carbonate of iron, from the ores of which is produced the greater part of the iron used in the country. The sandstones of this system form beautiful and durable building stones, the limestones are of great economical value, and many of the less [illegible] shales are good fire-clays.

The *Permian System* (q. v.), consisting of magnesian limestone and sandstone [illegible] occupies a considerable area in Durham and [illegible] Dumfries, Cumberland, Westmoreland, Lancashire, [illegible] Shropshire, Stafford, Worcester, Warwick, [illegible] York, and n. Glamorgan. The sandstone is quarried for building.

The [illegible] of the *Triassic System* (q. v.) occurs in Germany [illegible] representatives [illegible] of variously colored sandstones and marls. [illegible] Lancashire, Cheshire, Staffordshire, and [illegible] Devon, Somerset, Gloucester, Worcester, Warwick, Leicester, Nottingham, York and Durham [illegible]. The only deposits of rock-salt in England occur in the Triassic rocks of Cheshire and Worcestershire.

The *Jurassic System* (q. v.) is composed of an extensive series of limestones, clays, sandstones, and shales, which stretch in a broad belt from Yorkshire to Dorsetshire, passing through Lincoln, Worcester, Warwick, Northampton, Huntingdon, Bedford, Buckingham, Oxford, Gloucester, and Wilts. The best building materials in England are obtained from these strata. Jurassic strata occur in Scotland at Brora (Sutherland), in Skye, etc. In the Brora Oolite a seam of coal three and one half feet in thickness has been worked off and on since 1820. It is the thickest bed of pure vegetable matter detected in any Mesozoic formation in Britain.

The *Cretaceous System* (q.v.), consisting chiefly of chalk with underlying sands and clays, all very rich in fossil remains, occupies a broad tract to the e. of the Jurassic strata, and parallel to them. Beginning a little n. of Flamborough Head, the cretaceous strata may be traced through York and Lincoln, then across the Wash into Norfolk, Suffolk, Hertford, Buckingham, Oxford, Berks, to Hampshire, where they separate into three arms, the one extending s.w. through Wilts and Dorset to the s. coast; another taking a s.e. direction to Beachy Head; while the third stretches as a narrow band in an e. direction through Surrey and n. Kent, widening out as it nears the coast, where it occupies the district between Ramsgate and Folkstone. The fresh water Wealden series, with its abundant remains of reptiles, fishes, shells, and insects, is developed chiefly over the tract that lies between the n. and s. Downs.

The *Eocene System* (q.v.), consisting of clays, sands, and marls, abounding in fossils which apparently indicate a subtropical climate, occupies the valley of the Thames, from Hungerford to the sea, and from Canterbury to Saxmundham, as well as a large district in Dorset, Hants, and Sussex, from Salisbury w. to Dorchester, and e. almost to Hastings.

The *Oligocene System* (q.v.) is very sparingly developed in Britain—the only deposits of note occurring in Hampshire and the Isle of Wight.

The *Pliocene System* (q.v.), consisting of ferruginous shelly sand and marl known as crag, occurs chiefly in Suffolk and Norfolk. The still more recent *Pleistocene System* (q.v.) is represented by superficial accumulations of alluvium, gravels, bowlder-clay or till, bedded clays, etc., which are scattered over wide areas. To the same system belong the cave deposits with relics and remains of primeval man.

Minerals. In some respects the most important of British minerals is coal. The greatly increasing consumption of coal has originated fears as to the possibility of the exhaustion of our mineral fuel (see COAL). Formerly, the only iron produced in the country was obtained from the greensand of the s.e. of England, and from the brown hematite of the Dean Forest. The ore was smelted with charcoal. But the introduction of coke and coal for smelting, and the discovery of numerous additional and unthought of deposits, especially in connection with coal-bearing strata, immensely increased the production of iron, and met the greatly increased demands for this important metal. In 1740, when charcoal alone was used for smelting, not more than 25,000 tons of iron were produced, while in 1860 no less than 3,826,752 tons were obtained from [illegible] tons of ore. The most important ore is the ferruginous shale, or impure argillaceous carbonate of iron, which occurs in connection with every coal field in Britain. The brown and red hematites, associated with the oldest Palæozoic rocks, yield also a large amount of metallic iron. Tin is obtained from the two counties Cornwall and Devon. Copper is principally obtained from the same two counties. There were in 1860 about [illegible] different mines, chiefly in the counties of Lancashire, Carnarvon, and Anglesey, very small quantities being supplied from Cumberland, Chester, Cardigan, and the Isle of Man (see COPPER). Lead and silver are obtained from the [illegible] ore from numerous mines in Palæozoic strata. The most productive English mines are in Northumberland, Durham, [illegible] Shropshire, Yorkshire, Derbyshire, [illegible] and the Isle of Man. Small quantities are obtained in Somerset, Westmoreland, Stafford, and Chester. All the [illegible] counties of Wales contain mines. The Isle of Man yields much ore. In Scotland the most productive mines are at Wanlockhead and Leadhills. Zinc is obtained chiefly from Cardigan, [illegible], Flint, Cumberland, and the Isle of Man. Small quantities of other metals are raised in different parts of G. B. The following minerals are also found, viz.: arsenic, manganese, gold, nickel, [illegible], fluor spar, and wolfram. Salt occurs chiefly in Cheshire and Ulster.

The following table shows the minerals raised in the United Kingdom in 1888, with their value at the mines:

		Quantity	Value at the Mines
Alum Clay (Bauxite)	tons	9,666	$24,165
Alum shale	"	1,984	1,240
Antimony ore	cwt.	7¾	35
Arsenic	tons	4,624	175,985
Arsenical pyrites	"	5,325	21,200
Barytes	"	25,191	130,735
Bog iron ore	"	10,927	27,315
Clays (excepting ordinary clay)	"	2,562,792	32,671,095
Coal	"	169,935,219	214,856,380
Cobalt and nickel ore	"	152	3,730
Copper ore	"	15,132 7-20	304,900
Copper precipitate	"	418	32,695
Fluor spar	"	140	765
Gold ore	"	3,844	136,500
Gypsum	"	130,082	294,990
Iron ore	"	14,590,713	17,506,585
Iron pyrites	"	23,507	56,510
Jet	lb.	2,217	1,660
Lead ore	tons	51,259	2,191,915
Lignite	"	971	2,185
Manganese ore	"	4,342	9,670
Ochre, umber, etc	"	7,573	66,935
Oil shale	"	2,076,469	2,595,630
Petroleum	"	35	
Phosphate of lime	"	22,500	216,560
Salt	"	2,305,569	3,504,145
Slates and slabs	"	471,788	5,287,675
Stone, etc	"	....	43,473,185
Sulphate of strontia	"	7,064	17,660
Tin ore	"	14,370	4,473,325
Tungstate of soda	"	2¼	270
Wolfram	"	60	8,125
Zinc ore	"	26,408	484,920
Total values			$299,174,985

The total value of the coal and other minerals raised in the United Kingdom was $291,72[illegible] in 1886, $3[illegible] in 188[illegible], and $276,519,445 in 188[illegible]. The total value of the metals obtainable by smelting from ores produced in the United Kingdom (aluminium, antimony, copper, gold, iron, lead, magnesium, silver, sodium, tin, zinc) in 1887 was $63,9[illegible]965; in 1888, $57,526,005.

Physical Geography.—The physical features of a country are intimately connected with its geological structure. Thus the highlands and uplands of Scotland are built up chiefly of crystalline schists and the older Palaeozoic strata, while the intervening lowlands of the so-called central plain are composed mainly of the younger Palaeozoic rocks and overlying accumulations of superficial deposits. The mountainous tracts of Scotland consist therefore of more enduring or less readily eroded materials than the lowlands. Any wide tract of the highlands is built up largely of crystalline schists and granitic rocks, which, viewed from a commanding position, looks like a tumbled ocean in which the waves appear to be moving in all directions. The mountains are massive, generally round-shouldered and often even flat-topped, and there is no great disparity of height among the dominating points of any individual group. This is the result of denudation, guided and controlled by the petrographical character and geological structure of the rocks. The mountains are monuments of erosion; they are the wrecks of an old tableland, the upper surface and original inclination of which are approximately indicated by the summits of the various mountain masses and the direction of the principal rivers. The highlands are intersected from s.w. to n.e. by the Great Glen, which probably coincides with the line of a dislocation. It is customary in geographical text-books to speak of the 'range of the Grampians,' but the Highland mountains do not trend in linear directions, but rather form confused groups. It is probably owing to the fact that many of the dominating summits fall in certain more or less definite directions that the mountains have been described as linear ranges. The greatest height reached is 4,406 ft. in Ben Nevis, which is the culminating point of the highlands (q. v.), less eminences being Ben Macdhui (4,296 ft.) and Ben Lawers (3,984); with Cairn, 4,084). The s. limit of the highlands is defined by a line drawn from the Firth of Clyde at Helensburgh n.e. to the sea coast at Stonehaven. North of this line there are of course considerable tracts of less elevated ground, especially along the coast in Aberdeenshire and the borders of the Moray firth. Caithness is another comparatively low lying and gently undulating plain. The coast line of the highlands, particularly in the w., is repeatedly broken by numerous and large fiords or sea-lochs, in which the sea is usually abnormally deep. And opposite the same coasts appear the numerous islands of the Inner and Outer Hebrides. These fiords are simply submerged land valleys, while the islands referred to are the higher parts of the depressed continental plateau. There is reason to believe that at a very late geological date the Scottish coasts extended outward to what is now the contour line of 100 fathoms. One of the most marked features of the highlands is the multitude of fresh water lakes. These vary in size from mere tarns to large mountain-valley lakes like Lochs Lomond, Ness, Awe, Shin, Maree, Tay, etc., and most of them occupy rock basins, which are comparable in character to the deep hollows that occur in the sea lochs.

The central plain of Scotland may be described as a broad depression of relatively easily eroded materials lying between two tablelands of less readily denuded rocks. The principle features of this low-lying tract have a n.e. and s.w. trend determined by geological structure, as is seen in the Sidlaw hills, the Ochil hills, the Lenox hills, etc., in the n., and in the Pentland hills in the s. The surface of the lowland tracts is likewise diversified by many more or less abrupt and isolated hills, such as Arthur's seat, Dalmahoy crags, the 'Castle-rocks' of Edinburgh and Stirling, etc. Most of these heights consist of ingeous rocks of a more durable character than the strata of sandstone, shale, etc., which surround them.

The s. uplands of Scotland form a broad belt of high ground extending from the sea coast of Haddingtonshire and Berwickshire s.w. to the shores of Ayrshire and Galloway. Like the highlands the area of the s. uplands is simply an old tableland, furrowed into narrow ravine and wide dale by the operation of the various agents of erosion. The general configuration of this upland tract is somewhat tame and monotonous. The mountains are flat topped elevations with broad rounded shoulders and smooth grassy slopes. They do not run in linear directions but form irregular groups and masses. The rocks that enter into their composition are chiefly Silurian, greywacks, and shales, and consequently there is less variety of contour and color than in the highlands. The hills are not only flatter atop but are generally much smoother in outline, there being a general absence of those beetling crags and precipices which are so common in the highlands. Now and again, however, the mountains assume a rougher aspect, more especially in Carrick and Galloway, where the highest point (Merrick, 2,764 ft.) of the s. uplands is reached. The Silurian strata are overlaid toward the s. by younger Paleozoic rocks, consisting principally of sandstone and igneous rocks which gave rise to different orographic features. Thus we have the broad vale of Tweed and the lower reaches of Teviotdale occupied chiefly by sandstones and shales. The Cheviot hills, again, are built up in the n.e. chiefly of bedded igneous rocks which toward the s.w. give place to sandstones that form broad elevated moors and serve to connect the Cheviot hills with the loftier Silurian uplands lying to the s.w. In this region of sandstones, etc., not a few of the hills are conical in shape—a form due to the presence of cappings of relatively harder igneous rocks.

Crossing the borders of Scotland and England we find the high ground just referred to is continued s. through Northumberland, Cumberland, Durham, Yorkshire, Lancashire, and Derbyshire to form what is called the Pennine chain. This chain varies in height from 1,500 to 3,000 ft., reaching its highest summit in Scaw Fell, Cumberland, which is 3,162 ft. high. Where the hills are composed chiefly of sandstones and shales, they show generally a somewhat rounded and monotonous outline, but in the regions where thick limestones abound these usually give rise to more or less bold and abrupt escarpments. The lake district of Cumberland and Westmorland, being built up mainly of Silurian rocks, reproduces the characteristic features of the s. uplands of Scotland. And the same is to a large extent true of the mountainous parts of Wales (whose highest point, Snowden, is 3,571 ft.), while not a few of the features of the

Scottish highlands reappear on a small scale in Devonshire and Cornwall. All these hillier tracts are composed essentially of Palæozoic and associated igneous rocks. The major portion of England, however, consists principally of younger strata, and may be considered on the whole as a somewhat undulating plain traversed by ridges of varying elevation, which trend in a general direction from n.e. to s.w. The band of Jurassic strata, extending from the Yorkshire moors s. and s.w. to the coast of Dorset, forms a tortuous belt of tableland and escarpment, rising sometimes to a height of 1,500 ft., and throughout its course presenting usually a bold face to the w. and a gentle slope to the e. This configuration is the result of geological structure—the escarpments corresponding to the outcrop of the relatively harder members of the Jurassic system, which are underlaid and overlaid by more readily eroded strata, while the general inclination of the strata is to the e. and s.e. Similar escarpments accompany the outcrop of the chalk, but they are neither so lofty nor so bold. They form the Wolds of Yorkshire and Lincoln, and rise into a low range of hills that extend from Norfolk to Wilts, the more prominent portions of which are known as the Chiltern Hills, the Marlborough Downs, and Salisbury Plain. On the n. and s. side of the Wealden anticlinal axis, similar chalk hills appear, forming the n. downs in Surrey and Kent, and the s. downs in Hants and Sussex. Lying between the Pennine chain in the w., and the Yorkshire moors and Wolds and Lincoln heights and Wolds in the e., lies the broad depression traversed by the Ouse and Trent which is occupied chiefly by Triassic strata. In like manner, a low plain separates the mountain-tracts of Wales from the Pennine chain, which is similarly occupied by Triassic and younger Palæozoic strata. The maritime parts of Lincoln, Norfolk, Suffolk, Essex, and Middlesex are for the most part low lying, being composed of Cretaceous and overlying Tertiary and Quaternary deposits. Thus, in England as in Scotland, the loftier and bolder tracts of the country are met with in the regions occupied by the indurated rocks of the older Palæozoic series. It is in those regions where the most picturesque and diversified scenery occurs. A considerable number of estuaries penetrate the coast lines of England and Scotland, s. of the highland area, but none of these recalls the characteristic features of the deep sea lochs of the highland seaboard. The mountain valleys of s. Scotland, of England and Wales, are not submerged, the firths and estuaries of such regions being simply the submerged lower reaches of lowland valleys. The whole surface of Britain, with the exception of the extreme s. of England, has been more or less modified by glacial action, to which is largely due the rounded contour and flowing outline of all but the highest elevations. The surface features of the low-lying tracts have also been greatly modified by the enormous morainic and fluvio-glacial accumulations which were spread over the country in Pleistocene times. Notwithstanding all such modifications however, the prevailing influence of petrological character and geological structure in determining the orographic features of the country is everywhere conspicuous.

The physical geography of Ireland is discussed elsewhere (see IRELAND); here all that need be said is that in its geological relations it is intimately related to G. B., its orographic features being likewise determined by the character of its various rock masses. Ireland, like its sister island, forms a portion of the depressed continental plateau—its highly indented coast-line, more especially in the w. and s.w., being the result of a comparatively recent submergence. There can be no doubt that in post-glacial times Ireland was joined to Britain which at that period formed a part of the continent of Europe. See EUROPE (*Geology.*)

Meteorology.—The climate of G. B. derives its peculiar character from the insular situation of the country taken in connection with the prevailing direction of the winds. It is mild and equable in a remarkable degree, the winters being considerably warmer, and the summers cooler than at other places within the same parallels of latitude. For at least three months, the mean monthly temperature falls between 36° and 40°; for other three months it continues about 40° or rises a little higher, seldom more than four degrees, and for the remaining six months it ordinarily ranges between 50° and 60°. Since the reports of the registrar-general clearly prove that the temperature most conducive to health is between 50° and 60°, it follows that as far as concerns temperature, the climate of G. B. is one of the healthiest in the world.

As appears from data furnished by the reports of the English and

Scottish Meteorological Societies, the mean temperature of England is 49.5°, and of Scotland 47.5°. The mean temperature of the following places, arranged according to the latitude, have been deduced from the same sources; Guernsey, 51.5°; Falmouth, 51.4°; Ventnor, 51.1°; Barnstaple, 51.4°; Bournemouth, 50.8°; Greenwich, 50.3°; Bedford, 49.9; Derby, 48.8°; Liverpool, 49.3°; Manchester, 48.6°; Isle of Man, 48.8°; Scarborough, 47.8°; Milne Graden (Berwick), 47.5°; Leith, 47.2°; Rothesay, 47.8°; Greenock, 47.6°; Arbroath, 47.0°; Culloden, 46.6°; Tongue, 46.3°; Sandwick (Orkney), 45.8°; and Bressay, Shetland), 45.0°. There is thus a difference of fully six degrees between Falmouth, in Cornwall, and Shetland. This difference is chiefly attributable to the difference of their latitudes. It becomes greater as the force of the sun's rays increases; so that, while the winter temperatures are respectively 44.2° and 39.0°, the summer temperatures are 60.6° and 53.4°. The highest summer temperature is 64.2° in London, and the lowest 52.2° at n. Unst, the difference being 12.0°. A pretty regular decrease of temperature, with an increase of latitude, will be observed, particularly if the places on the w. side of the island be regarded as a series by themselves. The temperatures of places on the w. are in excess of those of places in the same latitudes, but at some distance from the Atlantic. In winter, the differences between the w. and the other parts of the country are still greater. Thus, while the January temperature of Falmouth is 44.2°; Guernsey, 43.0°; Ventnor and Barnstaple, 42.0°; Isle of Man, 40.8°; Liverpool, 40.6°; and Greenock, and the whole of the w. coast of Scotland as far as Shetland about 39.5°; that of Greenwich is 38.4°; Nottingham, 37.2°; York, 36.7°; Scarborough, 38.3°; Leith, 38.1°; Aberdeen, 37.3°; and Culloden, 37.5°.

The s.w. winds are the most prevalent throughout the year, except in April and May, when they give place in a considerable degree to the n.e. winds. The notoriously dry and parching character of the latter render them very deleterious to health. On the other hand, the s.w. winds, coming from the Atlantic, are moist and genial, and it is on their greater frequency (being, as compared with the n.e., in the proportion of two to one) that the salubrity of the British climate in a great measure depends.

In those districts of England where hills do not intervene, the annual rainfall is about 25 in., and in similar parts of Scotland about 28 in.; but these amounts, which may be considered as the rainfalls of the dryest districts of the two countries, are variously increased by proximity to hills or rising grounds, according as the place is situated in the e. or w. of the island, viewed in relation to the direction of the wind which brings the rain, and by its lying on the wind or on the lee side of these hills. Since it is the s.w. winds which bring by far the larger proportion of the rainfall, the heaviest falls take place among the hills in the w. of the country; and it may be here observed that, in the w., where there are no hills lying to the n.w., w., or s.w., the annual rainfall is only about 40 in. Except in a few scattered and restricted districts, the amount rises above 40 in.; but over broad districts in the w. highlands and Skye, and in limited areas in the lake district, and in n. and s. Wales, the annual rainfall exceeds 80 in. At the head of Glencroe, Argyllshire, it rises to 128½ in., and at the Stye, Cumberland, to 186 in. At the Ben Nevis observatory the amount is 127 in. Over all districts where the annual rainfall is large, or considerably in excess of the average, the greater proportion falls during the winter months; but, on the other hand, where the rainfall is small, as is characteristic of all the great agricultural districts of these islands, the greater proportion falls during the summer months, and there the falls which accompany thunder storms and e. winds occasionally rival the torrential falls of equatorial regions.

Fauna.—The animals found in B. are for the most part the same as those inhabiting similar latitudes over the whole of the n. temperate or palæarctic region of the Old World. In fact, Wallace says that the majority of genera in countries so far removed as G. B. and n. Japan are identical. As the British islands were formerly connected with the continent, the general similarity is intelligible enough, while the geological changes of insulation and the restriction of area are enough to account for the one great difference that the British, and especially the Irish, species are much fewer than those of the mainland. Insulation, however, also aids the modification of species, and thus we find a few forms peculiar to Britain, such as the red grouse (*Lagopus scoticus*), a shrew (*Sorex* [illegible]), as well as some land shells and insects. But if we exclude these few exceptions and take account furthermore of the extinct forms, the general conclusion is simply that the British fauna resembles that of the corresponding parts of the great palaearctic region. See works by Wallace, Murray, Sclater, Heilprin, etc., cited at GEOGRAPHICAL DISTRIBUTION.

Flora. The British flora corresponds in a general way to that of the continent, but appears to consist of several more or less distinct sets. The general resemblance may be shown by the fact that out of 117 plants recorded by De Candolle as characteristic of more than a third of the earth's surface, 100 occur in Britain. As to the various sets, Watson in his Cybele Britannica (1847) distinguishes British, English, Scottish, Highlands, Germanic, and Atlantic types; while Forbes (Mem. Geol Soc., i. 336) also considered the vegetation of Britain as composed of outposts of several floras from France, the Pyrenean region, Scandinavia, and other parts. Watson also distinguishes Agrarian and Arctic zones of distribution in Britain, each with three subdivisions marked by characteristic vegetation. The number of Phanerogams has been computed at 1,600 species, and there are probably at least twice as many Cryptogams. Among the very rare flowering plants, *Oxytropis campestris*, *Lychnis alpina*, *Astragalus alpinus*, *Saxifraga cernua*, *Eriocaulon septangulare* may be noted. See Watson and Forbes as above; London's Catalogue of British Plants 6th ed. 1867; Balfour's Manual of Botany (1871); Turnbull's Index of British Plants (after the London Catalogue, 1889); and Hooker's Student's Flora.

Agriculture. This industry no longer holds the same relative importance as in previous times of our history. It made a great start after the fall of the Stuarts, and its golden epoch was the reign of George II (1727-60). In 1750 the agricultural wealth (as shown below) was $2,305,000,000, or 53 per cent. of the total wealth of G. B., as estimated in 1770, by Young. In 1887 it was under 24 per cent. of the total. If Young's estimates be correct, the number of sheep in 1774 was much greater than at present, and as for tillage, the acres under crops in 1812 (according to Comber) were only 2,000,000 less than at present. The following table shows merely the comparative state of tillage, in acreage, in three kingdoms during 61 years:

Year.	England.	Scotland.	Ireland.	United King.
1827	11,140,000	2,550,000	5,450,000	19,140,000
1846	13,300,000	3,390,000	5,240,000	21,930,000
1866	13,340,000	3,170,000	5,250,000	21,760,000
1876	13,920,000	3,510,000	5,210,000	22,640,000
1888	13,350,000	3,690,000	4,140,000	21,180,000

The distribution of crops in 1888, according to the official reports, was as follows:

	England. acres.	Scotland. acres.	Ireland. acres.	United King. acres.
Wheat	2,510,000	70,000	90,000	2,670,000
Oats	1,885,000	1,015,000	1,280,000	4,180,000
Barley, etc.	2,485,000	255,000	200,000	2,940,000
All Grain	6,880,000	1,340,000	1,570,000	9,790,000
Potatoes	445,000	160,000	805,000	1,410,000
Turnips, vetches, etc	2,385,000	500,000	435,000	3,320,000
Clover, etc	3,640,000	1,690,000	1,890,000	6,660,000
All Crops	13,350,000	3,690,000	4,140,000	21,180,000
Pasture	14,590,000	1,190,000	10,920,000	26,700,000
Total	27,940,000	4,880,000	15,060,000	47,880,000

The cultivated area (as compared with total extent) is 75 per cent. in England, 75 per cent. in Ireland, and only 25 per cent. in Scotland; but the value of products is relatively highest in Scotland, as shown below. In 1887 England and Wales produced [illegible] per cultivated acre; Ireland [illegible] [illegible] Scotland [illegible] [illegible] was only [illegible] per cent. of the cultivated area of the United Kingdom, while the gross product of tillage and pasture reached [illegible] or [illegible] per cent. of the total for three kingdoms. Besides [illegible] the reader is referred to the works of Comber (1812), Middleton [illegible], McCulloch

(1831), and Caird, Porter, etc., for detailed statistics. The production of grain has been approximately as follows, in millions of bushels:

Year.	Wheat.	Barley, Oats, etc.	Total.	Bushel per Inhabitant.
1830	104	304	408	17
1846	148	258	401	15
1866	98	290	388	14
1876	84	270	354	11
1887	76	235	311	8

From the foregoing table it will be seen that we produce now only 8 bush. of grain per inhabitant, against 17 in the year 1830. At present the average is 10 bush. per inhabitant in France, 15 in Germany, 42 in Denmark, 42 in United States, 34 in Canada, and 18 in Australia.

The following statistics of live-stock are for England and Wales down to 1831, and the United Kingdom afterward:

Year.	Horses.	Cattle.	Sheep.	Pigs.
1688	......	....	12,000,000	....
1774	......	....	25,600,000	....
1800	......	....	26,150,000	....
1831	1,500,000	5,220,000	39,650,000	4,000,000
1867	......	8,730,000	33,820,000	4,220,000
1877	1,890,000	9,730,000	32,220,000	3,770,000
1888	1,940,000	10,270,000	28,940,000	3,820,000

The returns for 1888 show as follows:

	England.	Scotland.	Ireland.	Unit. King.
Horses	1,240,000	190,000	510,000	1,940,000
Cattle	5,060,000	1,110,000	4,100,000	10,270,000
Sheep	18,580,000	6,730,000	3,630,000	28,940,000
Pigs	2,265,000	155,000	1,400,000	3,820,000

The figures for the United Kingdom for 1889 are:

Horses	1,421,389
Cattle	6,139,555
Sheep	25,632,029
Pigs	2,510,803

McCulloch estimated the products of the three kingdoms in 1846 at $1,090,000,000; his table compares with the products of 1887 thus—all farm products:

1846.

	Agricultural	Pastoral	Total.
England	$400,000,000	$310,000,000	$710,000,000
Scotland	95,000,000	45,000,000	140,000,000
Ireland	140,000,000	100,000,000	240,000,000
United Kingdom	$635,000,000	$455,000,000	$1,090,000,000

1887.

	Agricultural.	Pastoral.	Total.
England	$460,000,000	$325,000,000	$785,000,000
Scotland	120,000,000	80,000,000	200,000,000
Ireland	85,000,000	185,000,000	270,000,000
United Kingdom	$665,000,000	$590,000,000	$1,255,000,000

McCulloch's estimate for Ireland in 1846 was perhaps too low. The registrar general for Ireland in 1889, Dec., published a report on the total value of farming products, thus:

1851-5 annual average	$359,250,000
1866-70 " "	361,060,000
1884-8 " "	270,060,000

This shows a national loss of $91,000,000 per annum to the Irish people, or double the total rental of the country. In seven years, down to 1888 Aug., the land court has reduced rents on 243,400 farms from $19,250,000 to $15,470,000, the savings thus effected to tenants being equal to 4 per cent. of their loss by the fall in prices.

Middleton estimated the total value of farm products of England and Wales in 1820 at $635,000,000; McCulloch, in 1845, at $710,000,000. In 1887 the total for the three kingdoms was $1,255,000,000—viz.:

	1846. England and Wales.	1887. Great Britain and Ireland.
Grain	$257,500,000	$207,000,000
Green Crops	142,500,000	262,000,000
Hay and Straw	65,000,000	165,000,000
Meat	131,000,000	277,500,000
Dairy	60,000,000	156,000,000
Eggs and Poultry	7,000,000	50,500,000
Foods	15,000,000	80,000,000
Hides, Wool, etc.	21,500,000	70,000,000
Timber	9,000,000	7,000,000
Vegetables and Fruit	....	50,000,000
Total	$708,500,000	$1,255,000,000

The value of farm products in the three kingdoms in 1846 was $1,[illegible],000,000, equal to 45 per cent. of the then estimated earnings of the whole people. In 1887 it was $1,255,000,000, or only 20 per cent. The above figures merely express the gross product, utterly apart from profits.

The following table of agricultural capital does not include Ireland before 1814. Land is capitalized at thirty times the rental;

Year.	Land.	Cattle	Sundries.	Total.
1750	$2,490,000,000	$125,000,000	$290,000,000	$2,905,000,000
1814	7,350,000,000	370,000,000	860,000,000	8,580,000,000
1845	8,385,000,000	470,000,000	985,000,000	9,840,000,000
1868	9,625,000,000	850,000,000	1,165,000,000	11,640,000,000
1880	10,430,000,000	1,045,000,000	1,275,000,000	12,750,000,000
1888	9,365,000,000	925,000,000	1,145,000,000	11,435,000,000

In the preceding table an allowance of 10 per cent. is included as 'sundries' but Chaptal and other French economists allow 14 per cent. It will be noted that the agricultural capital of the United Kingdom has only risen 30 per cent. since 1814, while the wealth of the nation since Colquhoun's estimate in 1811 has risen 370 per cent. Agriculture, in fact, is by no means so prosperous as it was 100 years ago, nor is the gross product so high relatively as elsewhere. The agricultural capital of the United States is only 52 per cent. higher than of the United Kingdom (the value of land being in the United States so much less); the gross product is 200 per cent. greater. Germany has the same agricultural capital as the United Kingdom, while her product is 66 per cent. over ours.

The agricultural capital and product of various nations are approximately as follows:

	Capital.	Gross Product yearly.	Ratio.
United Kingdom	$11,445,000,000	$1,255,000,000	10.9
United States	18,380,000,000	3,880,000,000	21.0
Canada	1,715,000,000	325,000,000	19.0
Australia	2,065,000,000	310,000,000	15.0
France	16,145,000,000	2,200,000,000	13.7
Germany	11,680,000,000	2,075,000,000	17.8
Russia	10,450,000,000	2,615,000,000	25.0
Argentine Republic	955,000,000	220,000,000	23.1

Finances.—The revenue of the British government has been as follows:

Date.	Reign.	Amount.
1080	William I	$6,000,000
1130	Henry I	4,950,000
1250	Henry III	1,320,000
1480	Edward IV	810,000
1540	Henry VIII	6,500,000
1640	Charles I	4,750,000
1700	William III	20,675,000

GREAT BRITAIN.—11

Date.	Reign.	Amount.
1728	George II.	45,150,000
[illegible]	George III.	279,050,000
1830	William IV.	297,000,000
1860	Victoria	875,500,000
1888	"	449,000,000

In the earlier reigns of the above table the nominal amount was only one-third of the above sums: but it must be remember that the groat (4 pence) contained as much silver as the shilling of to-day. Hence the above represents the exact value in silver. The purchasing power of was three times greater down to 1540 (Henry VIII.), and twice as great from that time till the death of George II. than what the present money can buy.

Revenue and expenditure since 1842 show as follows:

Period.	Revenue.	Expenditure.
1842-51	$2,835,000,000	$2,745,000,000
1852-61	3,390,000,000	3,545,000,000
1862-71	3,555,000,000	3,460,000,000
1872-81	3,995,000,000	3,970,000,000
1882-88	3,080,000,000	3,095,000,000
Total, 47 years	$16,855,000,000	$16,815,000,000

The revenue was made up as follows:

Period.	Customs.	Excise.	Stamps.
1842-51	$1,130,000,000	$755,000,000	$355,000,000
1852-61	1,185,000,000	905,000,000	390,000,000
1862-71	1,105,000,000	1,020,000,000	470,000,000
1872-81	995,000,000	1,340,000,000	550,000,000
1882-88	695,000,000	920,000,000	415,000,000
47 years	$5,110,000,000	$4,940,000,000	$2,180,000,000

	Income Tax.	Post office.	Sundries.	Total.
1842-51	$275,000,000	$90,000,000	$230,000,000	$2,835,000,000
1852-61	510,000,000	150,000,000	250,000,000	3,390,000,000
1862-71	390,000,000	225,000,000	345,000,000	3,555,000,000
1872-81	355,000,000	370,000,000	385,000,000	3,995,000,000
1882-88	450,000,000	340,000,000	260,000,000	3,080,000,000
47 years	$1,980,000,000	$1,175,000,000	$1,470,000,000	$16,855,000,000

The expenditures were as follows:

Period.	Service of Debt.	Army and Navy.	Government.	Total
1842-51	$1,435,000,000	$800,000,000	$510,000,000	$2,745,000,000
1852-61	1,425,000,000	1,440,000,000	680,000,000	3,545,000,000
1862-71	1,325,000,000	1,315,000,000	820,000,000	3,460,000,000
1872-81	1,405,000,000	1,400,000,000	1,165,000,000	3,970,000,000
1882-88	980,000,000	1,090,000,000	1,025,000,000	3,095,000,000
47 years	$6,570,000,000	$6,045,000,000	$4,200,000,000	$16,815,000,000

National expenditure, not including local taxes, compares with the estimated capital wealth of the nation as follows.

Year.	National Wealth.	Public Expenditure.	Ratio of Expenditure
1640	$1,270,000,000	$5,000,000	0.4
1700	2,150,000,000	20,000,000	0.8
1810	[illegible]	280,000,000	2.6
1840	20,500,000,000	265,000,000	1.3
1860	28,800,000,000	[illegible]	1.3
1888	47,000,000,000	450,000,000	1.0

If we include local taxation, and compare the gross public burden with the estimated earnings of the British and Irish people, we find thus:

Year.	All Public Expenditure	Earnings of People.	Ratio of Burden
1840	[illegible]	[illegible]	11.6 per cent.
1850	340,000,000	3,100,000,000	11.0 "
1860	430,000,000	3,800,000,000	11.3 "
1870	[illegible]	[illegible]	10.8 "
1880	715,000,000	[illegible]	12.2 "
1888	785,000,000	6,400,000,000	12.3 "

The national debt was only $65,000,000 at the beginning of the last century. George III. found it $735,000,000 at his accession, and raised it to $4,205,000,000 (in 1817) by his wars in America, Ireland, India, France, etc.; at his death it was equal to 31 per cent. of wealth of the United Kingdom. In 1889, Mar. it amounted to $3,400,000,000, or about 7¾ per cent. of the estimated wealth of the nation.

Commerce. Official records of British trade (including Irish from 1820) show as follows:

Year.	Reign.	Imports.	Exports.	Total.	Per Inhabitant.
1355	Edward III.	$600,000	$1,740,000	$2,460,000	$0.68
1573	Elizabeth.	10,500,000	9,400,000	19,900,000	3.60
1687	James II.	22,000,000	20,400,000	41,400,000	7.30
1726	George I.	33,500,000	38,500,000	72,000,000	9.18
1770	George III.	67,000,000	80,000,000	147,000,000	16.02
1800	"	120,500,000	216,000,000	338,500,000	31.08
1820	George IV.	148,500,000	221,000,000	369,500,000	16.98
1840	Victoria	258,000,000	310,000,000	567,000,000	20.40
1850	"	495,000,000	350,000,000	845,000,000	30.12
1860	"	1,052,500,000	822,500,000	1,875,000,000	62.40
1870	"	1,516,500,000	1,220,500,000	2,737,000,000	84.30
1880	"	2,056,000,000	1,432,000,000	3,488,000,000	98.40
1887	"	1,811,000,000	1,404,000,000	3,215,000,000	81.30
1888	"	1,938,178,715	1,489,426,180	3,427,604,895	88.96
1889	"	2,136,054,150	1,565,155,520	3,721,212,670	95.12

The board of trade returns were as follows for imports:

	1854.	1870.	1887.	Retained for Consumption in 1887.
*Grain	$114,000,000	$183,500,000	$256,000,000	$249,000,000
Raw Cotton	101,000,000	207,500,000	201,000,000	172,500,000
Manufactures	20,500,000	182,500,000	177,000,000	177,000,000
†Meat	19,000,000	28,500,000	114,000,000	112,000,000
Wool	32,500,000	79,000,000	112,500,000	53,000,000
Sugar	54,000,000	88,000,000	82,500,000	79,500,000
Dairy Produce	15,500,000	59,500,000	82,000,000	82,000,000
Tea and Coffee	36,000,000	77,000,000	75,000,000	53,000,000
Timber	57,500,000	66,000,000	60,500,000	60,500,000
Minerals	15,500,000	44,500,000	69,500,000	69,500,000
‡Wines	32,000,000	40,000,000	38,500,000	33,000,000
Flax and Jute	29,000,000	52,000,000	43,000,000	43,000,000
Raw Silk	32,000,000	41,000,000	10,500,000	10,500,000
Sundries	203,500,000	347,500,000	479,000,000	....
Total	$762,000,000	$1,51[illegible]500,000	$1,811,000,000	....

* Including rice and potatoes. † Including live cattle. ‡ Including spirits.

The principal exports of British and Irish products were as follows:

	1854	1870	1887
Cotton goods	$158,500,000	$357,000,000	$355,000,000
Woolen goods	53,500,000	133,000,000	123,000,000
Linen and Jute goods	25,500,000	52,000,000	43,500,000
Silken goods	6,000,000	13,000,000	14,000,000
All Textiles	$243,500,000	$555,000,000	$535,500,000
Iron	58,500,000	132,500,000	125,000,000
Other metals	19,000,000	23,500,000	21,500,000
Cutlery	20,500,000	32,000,000	15,500,000
Machinery	11,000,000	26,500,000	64,000,000
Coal	10,500,000	28,000,000	51,000,000
Sundries	125,000,000	290,500,000	290,500,000
Total	$488,000,000	$998,000,000	$1,102,000,000

The exports for 1887 show also $297,000,000 of colonial or foreign products not included here.

IMPORTS AND EXPORTS, 1889.

Imports.		Exports.	
Live Animals........$	51,500,435	Live Animals........$	5,860,315
Non-dutiable articles of Food and Drink.	674,302,625	Articles of Food and Drink..............	53,593,310
Dutiable, " " "	131,053,870	Raw Materials.......	86,789,600
Tobacco..............	19,569,625	Textile Fabrics and Yarns..............	551,052,429
Metals	110,424,225	Metals and Mfrs. of Metals other than Machinery.........	201,728,675
Chemicals, Dyes, and Tanning Materials.	43,176,890	Machinery...........	76,273,290
Oils..................	35,614,890	Clothing and Articles of Personal Use....	57,128,555
Textile Materials....	456,535,430	Chemicals and Medical Preparations...	39,667,595
Raw Materials for other Manufactures..............	218,473,355	All other Articles....	165,365,795
Manufactured Goods.	321,317,055		
All other Articles....	73,485,650		
Total..............$	2,136,054,150	Total..............$	1,240,459,795

Grand total of foreign trade for 1889, *$3,376,513,945.
*Within a fraction of $98 per capita.

England's share in the foreign trade amounted in 1889 to 90 per cent., Scotland's to 7½ per cent., and Ireland's to 2½ per cent.

Table showing share of principal foreign countries and British possessions in imports and exports of British produce in the year 1889.

Countries.	Imports.	Exports of British Produce.
United States........................	$478,698,185	$151,496,625
France..............................	228,616,545	72,774,760
India................................	180,132,010	154,887,000
Germany............................	135,223,060	91,911,315
Russia	135,801,800	26,686,640
Netherlands.........................	133,290,415	48,522,720
Australasia	134,098,280	118,772,000
Belgium.............................	88,309,795	85,735,165
British America	60,919,175	40,578,885
Sweden..............................	46,066,775	18,862,705
Egypt...............................	42,475,490	14,703,700
Denmark	39,249,580	11,780,655
China...............................	30,889,925	25,186,425
South Africa........................	30,589,460	44,734,195
Straits Settlements................	27,202,210	11,974,970
Turkey..............................	26,217,985	30,809,980
Brazil...............................	25,263,885	31,191,615
Norway..............................	17,479,920	8,577,180
Portugal............................	16,250,825	18,595,880
Roumania...........................	16,062,985	6,294,890
Italy................................	16,018,720	35,580,700
Ceylon..............................	14,345,625	3,804,670
Chili................................	12,206,555	15,061,475
Austria..............................	11,419,615	5,108,470
Philippine islands.........	11,608,570	7,724,015
Java........	11,114,595	7,634,600
British West Indies.................	10,853,090	10,871,025
Peru..........	[illegible]	[illegible]
Argentine Republic.................	[illegible]	[illegible]
Greece..............................	[illegible]	[illegible]
Central America....................	[illegible]	[illegible]
British Guiana.....................	[illegible]	[illegible]
West Africa........................	[illegible]	[illegible]
Hong Kong.........................	[illegible]	[illegible]
Japan..............................	[illegible]	[illegible]
Morocco...........................	[illegible]	2,861,290
Channel Islands....................	[illegible]	[illegible]
British West Africa...............	[illegible]	3,460,110
Algeria.............................	[illegible]	1,442,140
Mexico..............................	2,327,955	7,569,600

The aggregate trade in merchandise only, exclusive of bullion, for seven years ending 1887, Dec., showed thus:

	Imports from.	Exports to.	Gross Trade, 7 years.	Ratio
United States.....	$3,135,000,000	$1,270,000,000	$4,405,000,000	18.6
France	1,320,000,000	900,000,000	2,220,000,000	9.4
Holland	870,000,000	555,000,000	1,425,000,000	6.0
Germany	855,000,000	1,010,000,000	1,865,000,000	7.9
Russia.............	600,000,000	265,000,000	865,000,000	3.6
Belgium.	510,000,000	485,000,000	995,000,000	4.2
Sweden and Nor'y.	380,000,000	175,000,000	555,000,000	2.3
Spain..............	355,000,000	155,000,000	510,000,000	2.2
Turkey	165,000,000	240,000,000	405,000,000	1.7
Italy...............	110,000,000	270,000,000	380,000,000	1.6
Denmark..........	180,000,000	85,000,000	265,000,000	1.1
China and Japan..	345,000,000	285,000,000	630,000,000	2.7
Egypt..............	305,000,000	110,000,000	415,000,000	1.8
Brazil	185,000,000	230,000,000	415,000,000	1.8
River Plate........	70,000,000	230,000,000	300,000,000	1.2
Chili	95,000,000	75,000,000	170,000,000	0.7
Portugal..........	105,000,000	85,000,000	190,000,000	0.8
Java.	110,000,000	65,000,000	175,000,000	0.7
Other Countries...	675,000,000	605,000,000	1,280,000,000	5.3
Foreign Countries.	$10,370,000,000	$7,095,000,000	$17,465,000,000	73.6
India..............	$1,205,000,000	$1,115,000,000	$2,320,000,000	9.3
Australia.........	865,000,000	905,000,000	1,770,000,000	7.5
Canada	375,000,000	330,000,000	705,000,000	3.0
West Indies.......	160,000,000	110,000,000	270,000,000	1.2
South Africa......	190,000,000	195,000,000	385,000,000	1.6
Other Colonies....	385,000,000	375,000,000	760,000,000	3.3
British Colonies...	$3,180,000,000	$3,030,000,000	$6,210,000,000	26.4
Grand Total....	$13,550,000,000	$10,125,000,000	$23,675,000,000	100.0

Shipping. The merchant shipping of the British empire, colonies included, showed as follows:

Year.	Vessels.	Tons.	Sailors.	Tons per Ship.	Tons per Sailor.	Reign.
1558......	470	37,400	......	80	..	Elizabeth.
1610......	910	88,000	......	90	..	James I.
1666......	1,330	130,000	......	90	..	Charles II.
1688	2,620	210,000	......	80	..	James II.
1702	3,280	261,000	......	80	..	Anne.
1760......	5,730	486,000	......	85	..	George III.
1800......	17,410	1,855,000	140,000	106	14	"
1810......	23,703	2,426,000	162,000	102	15	"
1820	25,374	2,654,000	175,000	105	15	George IV.
1830......	23,721	2,538,000	155,000	107	16	William IV
1840......	28,962	3,311,000	201,000	114	17	Victoria.
1850......	34,288	4,232,000	239,000	124	18	"
1860......	29,469	5,711,000	229,000	193	25	"
1870......	32,250	7,150,000	261,000	216	27	"
1881	30,341	8,532,000	270,000	280	31	"
1887	28,212	8,630,000	280,000	320	32	"

The shipping of the United Kingdom, excluding colonial, has been as follows:

Year.	Vessels.	Tons.	Seamen.	Tons per Vessel.	Tons per Seamen.
1840	20,853	2,211,000	145,000	106	15
1850	19,174	2,312,000	131,000	114	17
1860........	25,884	3,565,000	148,000	138	24
1870........	26,367	5,601,000	196,000	215	29
1881........	24,890	6,490,000	198,000	260	33
1887	22,195	7,340,000	208,000	334	35
1888........	21,886	7,464,167	223,673	341	33

GREAT BRITAIN.—15.

The following table shows the ratio of British and colonial tonnage in the world's shipping:

Year	British and Colonial. Tons.	All other Flags. Tons.	The World. Tons.	British Ratio.
1820	2,651,000	3,900,000	6,554,000	40 per cent.
1842	3,311,000	6,200,000	9,511,000	35 "
1860	5,712,000	7,973,000	13,685,000	42 "
1870	7,150,000	8,426,000	15,576,000	46 "
1881	8,535,000	12,111,000	20,646,000	41 "
1887	8,936,000	12,966,000	21,902,000	42 "

In the foregoing tables no distinction is made between steam and sailing tonnage. A steamer, however, is found to make three ocean voyages or six short trips in the same time that a sailing vessel takes for one; we must therefore multiply steam tonnage at least by four, to arrive at the carrying power. The following table makes this allowance, and under the head of effective carrying power it will be observed that the shipping of the British empire has multiplied six and a half times since 1840. Reference to American statistics shows that in the same interval the sea going shipping of the United States increased in nominal tonnage only 200,000 tons, or 25 per cent.

Year.	Steam (nominal tonnage).		Sailing (nominal tonnage).		Effective Carrying-power.	
	British.	Other Flags.	British.	Other Flags.	British.	Other Flags.
1840	95,000	21,000	3,216,000	6,180,000	3,596,000	6,264,000
1850	188,000	204,000	4,045,000	6,800,000	4,797,000	7,616,000
1860	502,000	318,000	5,211,000	7,655,000	7,219,000	8,927,000
1870	1,203,000	715,000	5,947,000	7,711,000	10,759,000	10,571,000
1881	3,105,000	2,539,000	5,430,000	9,572,000	17,850,000	19,728,000
1887	4,355,000	3,857,000	4,581,000	9,089,000	22,005,000	24,515,000

The carrying-power of the British merchant navy (including colonial) in 1887 was 22,000,000 tons, or considerably more than the total carrying-power of the world (21,300,000 tons) in 1870, since which year the British merchant shipping has doubled. It is now almost equal to the total effective tonnage of all other nations in the aggregate. The above table gives the following result:

	Carrying-power.			Ratio.		
	1840. Tons.	1860. Tons.	1887. Tons.	1840.	1860.	1887.
British	3,596,000	7,219,000	22,005,000	36.5	44.6	47.3
Other flags	6,264,000	8,927,000	24,515,000	63.5	55.4	52.7
The world	9,860,000	16,146,000	46,520,000	100.0	100.0	100.0

In the above table British includes colonial shipping. If we compare the merchant shipping of the United Kingdom only with that of other flags we find:

Year 1887.	Nominal Tonnage.	Carrying power. Tons.	Ratio.
United Kingdom	7,340,000	19,590,000	42.0
United States	[illegible]	[illegible]	17.8
Germany	1,285,000	2,640,000	5.7
Norway	1,521,000	[illegible]	4.0
Canada	1,078,000	1,310,000	2.8
Russia	[illegible]	[illegible]	3.0
France	[illegible]	[illegible]	5.4
Italy	946,000	1,390,000	3.0
Spain	504,000	1,640,000	3.5
Sweden	517,000	880,000	1.9
Australia	349,000	770,000	1.6
Holland	[illegible]	[illegible]	1.3
Denmark	[illegible]	[illegible]	1.2
Austria	262,000	590,000	1.2
Greece	262,000	370,000	0.8
South America	253,000	490,000	1.0
Other Countries	785,000	1,720,000	3.8
The world	21,902,000	46,520,000	100.0

Wealth. Comparing Porter's table for 1840 with the estimates for 1860-87, we find as follows:

	1840.	1860.	1887.
Railways	$ 105,000,000	$ 1,740,000,000	$ 4,155,000,000
Houses	3,850,000,000	5,820,000,000	13,200,000,000
Furniture	1,925,000,000	2,910,000,000	6,600,000,000
Lands	8,400,000,000	8,740,000,000	7,800,000,000
Cattle, etc	1,400,000,000	1,750,000,000	2,070,000,000
Shipping	115,000,000	220,000,000	650,000,000
Merchandise	350,000,000	950,000,000	1,105,000,000
Bullion	305,000,000	525,000,000	715,000,000
Sundries	4,050,000,000	4,135,000,000	9,845,000,000
Total	$20,500,000,000	$26,790,000,000	$46,140,000,000

In the above table land in 1887 is put down at $7,800,000,000, whereas the official valuation at 30 years' purchase, as already shown under the item agriculture, is $9,365,000,000; but it is generally admitted that the official valuation is 20 per cent. over the real value.

The increase of wealth from 1840-87 was 124 per cent., or three times greater than that of population. The annual accumulation averaged $320,000,000 between 1840-60, and $715,000,000 between the latter year and 1887. Wilson estimated the accumulation in 1860-65 at $500,000,000 yearly; Giffen, in 1880, at $750,000,000. Houses constitute the largest item of public wealth, viz.: $13,200,000,000, the value being taken at 20 times the assessed annual rental. In this item alone we see an increase of $9,350,000,000 since 1840, the number of new houses built between that year and 1880 being 2,258,000, say 55,000 yearly. It is probable that new houses represent only one-third of the increase of value, as the old ones (4,400,000) have likewise risen. Allowing for houses built since 1880, the number and value would be approximately thus:

	No.	Value.	Per house.
Built before 1840	4,400,000	$ 8,650,000,000	$1,965
Since 1840	2,700,000	4,550,000,000	1,700
Total in 1889	7,100,000	$13,200,000,000	$1,860

The value of house-property per inhabitant varies in the three kingdoms:

	Per inhab.		Per inhab.
England	$385	London	$780
Scotland	310	Liverpool	570
Ireland	60	Glasgow	500
United Kingdom	351	Dublin	220

The value of house property for the whole United Kingdom in 1840 was only $150 per inhabitant.

Furniture, according to insurance agents, averages half the value of houses; this item includes, moreover, pictures, clothing, jewelry, and carriages.

Lands. The value under this head has been explained already under Agricultural Statistics.

Railways are the fourth item of national wealth, the above statement of capital employed being from official returns. Since 1860 nearly $90,000,000 a year have been thus invested in the three kingdoms, of course excluding similar investments abroad, which are comprised under Sundries.

Shipping. The United Kingdom has 21,836 vessels, aggregate 7,464,167 tons, which, at the medium valuation of $87.50 per ton, makes $653,114,612. Over $50,000,000 yearly go into new merchant-vessels built in the three kingdoms.

Merchandise. We assume six months' imports and exports to represent at each of the above dates the value of merchandise on hand. It is probably under the reality.

Sundries were estimated in 1887 as follows:

Canals, docks, dockyards and navy	$ 575,000,000
Gas, water-works, telegraphs	890,000,000
Colonial loans and railways	[illegible]
Australian mortgages	[illegible]
Foreign stocks	[illegible]
Total	$9,345,000,000

The amount of British capital in foreign stocks is variously estimated.

Bullion.—This is not properly wealth, but a token of it. However, in deference to vulgar prejudice, we include the estimated amount of gold and silver at different dates.

According to the probate returns for 1881-5 the wealth held by the inhabitants of the United Kingdom would then have been only 8,200 millions sterling. It must, however, be observed that estates under $500 escape the probate court, and many large estates are undervalued in proving succession; also, that the royal navy, dockyards, prisons, lighthouses, high roads, etc., have to be added to the probate estimates, which will bring us up to the total of 9,228, as first stated.

Religion.—The census takes no note of religion except in Ireland, but the ratios of marriages in the different churches enable us to form a close estimate of the adherents to the various creeds in England and Scotland. On the basis of the census of 1881 the figures would stand thus:

	Numbers		
	England.	Scotland.	Ireland.
Church of England	18,798,000	99,000	636,000
Roman Catholic	1,066,000	318,000	3,952,000
Presbyterian	114,000	2,997,000	486,000
Methodist, etc	5,990,000	281,000	48,000
Total	25,968,000	3,695,000	5,122,000

	Percentage			
	England.	Scotland.	Ireland.	United Kingdom.
Church of England	72.8	2.7	12.3	55.8
Roman Catholic	4.1	8.6	77.4	15.2
Presbyterian	0.4	81.0	9.4	10.3
Methodist, etc	23.2	7.7	0.9	18.7
Total	100.0	100.0	100.0	100.0

The established church, before the disestablishment in Ireland in 1869, comprised the following livings:

Nominated by	England.	Ireland.	Total.
Crown	952	131	1,083
Noblemen	5,096	340	5,436
Bishops, etc	4,694	924	5,618
Total	10,742	1,395	12,137

A report, published in 1880, on the income of the established church in England and Wales, was as follows:

Tithes	$20,270,000
Committee grants	3,880,000
Other sources	4,865,000
Total	$29,015,000

The above, however, included $4,810,000 of tithes that go to laymen, the real church income being $24,205,000, distributed thus:

Clergy.	No.	Income.	Per head.
Bishops	33	$840,000	$25,500
Canons	166	1,200,000	7,200
Rectors	11,780	19,150,000	1,650
Curates	5,050	3,015,000	600
Total	17,029	$24,205,000	

The above does not include the 'offertory' which has been found to range from $500 to $[illegible] per annum in each church, and is estimated to sum up $[illegible] yearly, at $[illegible] per church. The ecclesiastical report for 1880 shows that in forty years the commissioners have expended $[illegible] in creating new endowments to an annual value of $3,[illegible] in aid of [illegible] distressed parishes, say $800 each.

The commissioners distribute about $3,500,000 a year in creating new benefices, to an average amount of $115,000 per annum. Balance still in hand, $41,000,000. The above tables do not include collegiate endowments, worth $2,750,000 a year. The total clergy of Church of England, 19,000, including 2,000 schoolmasters. The Church of England has, moreover, 232 clergymen in Scotland, 820 in Ireland, 2,700 in colonies and foreign countries, making a grand total of 22,752.

The number of churches of all persuasions in England and Wales in 1883 was as follows:

Church of England	14,573
Methodist	11,514
Independent	2,603
Baptist	2,243
Calvinist	895
Roman Catholic	824
Quaker	375
Presbyterian	201
Jewish	60
Various	2,628
Total	35,916

In the above are not included 364 Roman Catholic chapels attached to religious houses possessing no marriage license.

The condition of the Anglican church in Ireland in 1880 was as follows:

Number of clergy	820
Number of laity	635,100
Endowment	$650,000
Dotations	590,000
Total income	1,240,000
Endowed capital	16,300,000

There are 12 bishops, who receive $207,500 per annum—average $18,000 each. In 1880, Nov., the residue of property formerly belonging to the Anglican church in Ireland was valued at $60,000,000, producing a revenue of $2,850,000, to be devoted to purposes of general utility or beneficence.

The condition of the Roman Catholic church in the British empire in 1882 was as follows:

	Bishops.	Priests.	Churches.	Laity.
England	15	2,112	188	1,066,000
Scotland	6	306	295	318,000
Ireland	28	3,290	2,760	8,952,000
Canada	24	1,210	1,050	2,150,000
Australia	16	376	787	584,000
India	22	1,179	700	1,818,000
Other colonies	20	815	240	466,000
Total	131	8,788	7,020	9,854,000

The average income in the United Kingdom is $2,000 for a bishop and $400 for a priest. In India it is [illegible] per bishop and $180 per priest. In Canada and Australia it is higher than in England.

There are [illegible] Jews in the United Kingdom.

Manufactures.—McPherson's table of British manufactures in 1782 compares with the estimates for 1882, United Kingdom, as follows:

	1782.	1882.	Ratio.	
			1782.	1882.
Cotton goods	$ [illegible]	$ [illegible]	1.7	11.6
Woolen "	[illegible]	[illegible]	29.5	5.5
Linen "	[illegible]	[illegible]	3.1	1.4
Silk "	[illegible]	[illegible]	5.9	0.9
Leather	[illegible]	[illegible]	18.4	4.2
Iron and steel	[illegible]	[illegible]	21.4	15.4
Sundries	[illegible]	[illegible]	20.0	61.0
Total	$ [illegible]	$ [illegible]	100.0	100.0

The growth of the principal manufactures is shown as follows:

	1850.	1860.	1870.	1881.
Cottons	$215,000,000	$390,000,000	$470,000,000	$475,000,000
Woolens	145,000,000	190,000,000	275,000,000	230,000,000
Linen, etc.	85,000,000	85,000,000	110,000,000	105,000,000
Silks	50,000,000	90,000,000	80,000,000	85,000,000
Sundries	50,000,000	85,000,000	110,000,000	180,000,000
Textiles	545,000,000	840,000,000	1,075,000,000	975,000,000
Hardware	210,000,000	325,000,000	410,000,000	635,000,000
Textiles and Hardware	$755,000,000	$1,165,000,000	$1,385,000,000	$1,610,000,000

The increase of textile manufactures is shown by the consumption of fiber, in millions of pounds, viz.:

	Cotton.	Wool.	Flax.	Hemp.	Jute.	Total.	Lbs. per Inhab.
1801	54	77	48	82	..	261	16
1810	114	83	60	107	..	364	20
1820	123	85	87	95	..	390	18
1830	246	110	138	59	..	653	23
1840	448	129	210	67	..	854	32
1850	565	158	249	122	43	1,136	41
1860	1,140	224	228	78	86	1,756	61
1870	1,101	309	291	160	324	2,185	68
1880	1,404	338	227	165	404	2,538	70
1882	1,519	334	236	181	512	2,782	78
1887	1,499	378	190	196	494	2,758	74

Note. Throughout this article the comparative statistics are from advance sheets of the enlarged edition of Mulhall's Dictionary of Statistics.

Population. The following table shows the population of the United Kingdom at successive censuses since the first—that of 1801, in which Wales is given along with England. The counties, with their areas (in acres) and populations, are given for each of the main divisions of the empire under England, Scotland, Ireland, and under their own heads.

	Area in sq. m.	1801.	1841.	1881.
England	50,823	8,892,536	15,002,443	24,613,926
Wales	7,363	....	911,705	1,360,513
Scotland	29,820	1,608,420	2,620,184	3,735,573
Ireland	32,531	5,395,456	8,196,597	5,174,836
Isle of Man	220	....	47,975	53,558
Channel Islands	75	....	76,065	87,702
Army, Navy, etc.	...	....	202,954	215,374
Total, United Kingdom	120,832		27,057,923	35,241,482

Table of population for 1889, June 30, computed from births and deaths:

England and Wales	29,015,613
Scotland	4,077,070
Ireland	4,716,209
United Kingdom excluding soldiers, sailors, and merchant seamen abroad	37,808,892

Population of some of the chief cities, 1889:

London, (in largest sense)	4,351,738
Liverpool	604,562
Birmingham	454,835
Manchester	378,890
Glasgow	674,095

At the census of 1871 the total population was 31,845,379. In 1889 the registrar-general estimated it at 38,165,523. The [illegible] 1881 [illegible] In 1881 there were [illegible] natives of the United Kingdom [illegible] abroad [illegible] of them in the United States. In 18[illegible] there were in England and Wales [illegible] natives of Scotland, [illegible] natives of Ireland, and [illegible] natives of [illegible] states. Of the latter, 117,999 were foreign subjects: 17,767 being American citizens, 37,301 Germans, 14,596 French.

Colonies. According to the official statements, the British colonial empire comprises 41 distinct and independent governments, and, including India, extends over nearly [illegible] of sq. m., more than 70 times the area of the mother country, or practically one sixth of the land surface of the globe. The colonies alone have an area 60 times that of the United Kingdom, but their population is only 19,500,000 as compared with the [illegible] in the mother country. The total colonial area is [illegible] sq. m. ; of this [illegible] belong to the nine self-governing colonies with a population of [illegible]; while 1,651,052 sq. m., with a population of [illegible], are under the authority, more or less direct, of the home government.

The following table shows the area and population of the colonies and dependencies of the empire. The populations are given according to the latest censuses or official estimates:

	Area in sq. m.	Pop.
India (British)	868,314	198,790,853
Straits Settlements	1,472	537,000
Ceylon	25,365	2,763,984
Mauritius	713	368,163
Labuan	30	5,883
Hong-kong	30.5	212,951
Australia (the five colonies)	2,944,628	2,805,123
Tasmania	26,215	142,478
New Zealand	104,458	608,361
Fiji	7,740	124,658
Falkland Isles	6,500	1,843
Natal	18,750	477,100
Cape of Good Hope	213,917	1,377,213
St Helena	47	5,059
Lagos	1,069	75,270
Gold Coast	29,401	1,405,450
Sierra Leone	3,000	60,546
Gambia	69	14,150
Canada	3,406,542	4,826,149
Newfoundland	42,000	193,121
Bermuda	19	15,347
Honduras	6,400	27,452
Bahamas	4,466	43,521
Turks Island	169	4,732
Jamaica	4,193	608,500
Windward Islands	784	328,686
Leeward Islands	665	119,546
Trinidad	1,754	183,486
British Guiana	109,000	277,038
Gibraltar	1⅞	18,381
Malta	119	160,679

The above figures do not include the feudatory states of India ([illegible]), the Maori population of New Zealand (41,969), or the aborigines of s. Australia.

[illegible] bearing on the condition [illegible] of the United Kingdom [illegible], of which the following are some of the more important:

Agriculture
Army
Banks
Bridges
Canals
Chancery
Coal
Colony
Common Law
Cotton
County
Criminal Law
Dialect
Docks
Education
Emigration
England

England, Church of
English Language
English Literature
Equity
Fisheries
Friendly Societies
Game
Harbour
Immigration
Ireland
Iron
Land
Lighthouses
Local Government
National Debt
Navy
Ordnance Survey

Parish
Parliament
Police
Poor Laws
Post-office
Railways
Religion
Savings-banks
Scotland
Steam-navigation
Taxation
Telegraphs
Universities
Vital statistics
Volunteers
Wales

GREAT BRITAIN.—21.

For the arms of G. B. and Ireland, see FLAG, HERALDRY. The history is dealt with under the heads of ENGLAND, SCOTLAND, IRELAND, and WALES. See also the works there cited; and the following works may be consulted:

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GREECE.—1.

GREECE, *grēs:* is the easternmost of the three peninsulas projected by s. Europe into the Mediterranean; and being for the most part limestone, is a continuation of the great mountain system which stretches from Spain to Syria, incloses the basin of the Mediterranean with precipitous edges, and shuts off the three peninsulas from the continent. In no other country has the geography more influenced the history than in G.; and the tendencies of this influence are expressed on the one hand in Wordsworth's lines:

> Two Voices are there; one is of the Sea,
> One of the Mountains; each a mighty Voice:
> In both from age to age thou didst rejoice,
> They were thy chosen music, Liberty!

and on the other in Hegel's dictum: 'Mountains alone divide, seas unite.' Thus, as the w. coast of G. is mountainous and harborless, while the e. is full of bays, gulfs, and havens, G. turned her back on Italy, and was brought into intimate communication with Asia Minor. The e. of the three basins into which the Mediterranean is divided became a Greek lake. The greatest factor in Greek unity was the Ægean sea, for it united the Greeks of the mother country with the Greeks of the isles and of the coast of Asia Minor. At the same time, as the coast is the first part of a new country to become civilized, and G. has relatively a longer coast line than any other country in Europe, just as Europe has more coast than any other quarter of the globe, the history of European civilization begins with Greece. On the other hand, the spirit of liberty, which nerved the Greeks to resist the Persians, and to save the civilization of the world, was due to the mountains of G., but the divisions between the Greeks themselves were also due to the mountains, which divided the land into cantons incapable of effectual combination against the Macedonian invader who conquered them all.

Let us then begin with the mountains, and, so to speak, articulate the skeleton of G. The range which in the n. cuts off the peninsula from the continent of Europe is an extension of the Balkans. From it run chains from n. to s., or rather from n.n.w. to s.s.e., which form the skeleton of G. The most important of these is the range which forms the backbone of the country, separating first Illyria on the w. from Macedonia on the e., and then Epirus on the w. from Thessaly on the e. Thus the w. boundary of Thessaly is formed by Pindus (7,111 feet), the main offshoot of the Balkans. The e. boundary is also marked not only by the sea, but by important mountains derived from the Balkan system. These are Olympus (9,750 feet), Ossa, Mavrovuni, and Pelion. Returning to Pindus, we find that its tendency to the e. becomes now more pronounced, and a branch of it, under the name of Othrys, starting from the mighty Tymphrestus (mod. Veluchi, 7,606 feet), forms the s. boundary of Thessaly. It then is continued in the celebrated mountains Parnassus (8,036 feet) and Helicon, forms the land of Attica, and reappears as the islands of Ceos, Cythnos, Seriphos, and Siphnos. The subsequent course of that branch of the Balkans which we have mentioned as marking in part the e. boundary of Thessaly is equally interesting, for it forms first the island of Eubœa, and then the isles of Andros, Tenos, Myconus, Naxos, and Amorgos. The Peloponnese, 'the island of Pelops,' or by its modern name the Morea, is connected with n. G. merely by the narrow isthmus of Corinth, and is separated from it by the long and narrow gulf of Corinth on the w. and the Saronic gulf on the e. The commercial supremacy of ancient Corinth, standing as it did on 'two bright havens,' and on the road from Peloponnese to the mainland, was due to its position; and we need only add, in further explanation, that all the great trade routes from the Ural mountains, the Black sea, and Asia Minor to Sicily, Marseilles, and the west converged at Corinth.

The Peloponnese has a mountain system which is derived, like the others of G., from the Balkans, runs parallel to and w. of Pindus, and shows itself in the Acroceraunian mountains and in Acarnania. From the central group of mountains which surround Arcadia, and the highest on its n. frontiers between Arcadia and Achæa—e.g., Cyllene (*Ziria*), Aroania (*Chelmos*, 7,724 ft.), and Erymanthus (*Olonos*)—run two important chains, in the same n.n.w. to s.s.e. direction which we observed in the north. Of these the w. is the famous Taygetus ([illegible]), the highest peak in the Peloponnese, which, after dividing Laconia on the e. from Messenia on the w., ends in the promontory of Tænarum, while the e. one separates

Arcadia from Argolis, runs down Laconia under the name of Parnon (*Malevo*), and makes its last appearance as the island of Cythera. And here we may complete our account of the isles of G. by adding that the Ionian isles, Corcyra, Cephallenia, Leucas, and Zacynthus, off the w. coast, follow the same n.n.w. to s.s.e. direction as the mountain chains of the Peloponnese and the mainland.

The rivers of G. are unimportant. They flow generally, both in the Peloponnese and the mainland, s. or w. In the latter the four principal rivers have their source on Mt Lakmon, the starting point of Pindus, and flow, the Aoos (*Voiussa*) into the Adriatic, the Achelous (*Aspropotamos*) to the gulf of Patrae, the Peneus (*Salambrias*) and Haliacmon into the Thermaic gulf. The principal rivers of the Peloponnese rise near the n. of Taygetus: the Alpheus (*Rouphia*) flows w., the Eurotas south.

People. The ancient Greeks were a branch of that family which includes most European peoples, and also the Persians and the Hindus, and is variously called Indo-Germanic, Indo-European, and Aryan. The Indo-European family is not an ethnological division of the human race, but a linguistic: the languages spoken by the various Indo-Europeans are descended from one and the same original language (now lost), but the peoples who speak it, indeed the people who spoke the original language, need not necessarily, though they may quite possibly, be all of the same descent, for one nation may directly or indirectly compel another to adopt its language. Whether the original Indo-European home was in Europe or in Asia is a matter still in dispute. What is less open to doubt is that it was from the n. that the Greeks entered G., and that they were nomad tribes depending for subsistence mainly on their flocks, though they knew how in extremity to cultivate the ground in a primitive fashion. Metals they were hardly acquainted with; they were still in the Stone age. As they moved s. in separate tribes, the foremost tribes were impelled forward by the pressure of those behind; and even when the whole of the peninsula had been for some time filled and fully occupied, a fresh wave of immigrants might wash over the whole country, disturbing everything. Such a wave was the 'Return of the Heraclidae,' or the 'Dorian invasion.' The result was to drive emigrants on to and over the isles of G. to plant Greek cities and Greek culture on the coasts of Asia Minor. At later times Sicily, the Black sea, Libya, etc., were dotted with Greek colonies; and wherever Greeks were, there, to the Greek mind, was Hellas, which is thus an ethnological rather than a territorial term. As for the name of the Greeks, they called themselves *Hellenes*, a designation the origin of which is still unknown; the inhabitants of Italy called them *Græci*; the Orientals, *Ionians*; while in Homer they are called *Danaans* and *Achæans*.

The modern Greeks are by no means pure-bred descendants of the ancient Greeks. Indeed, it has been maintained by Fallmerayer that from the 7th cent. A.D. there have been no pure Greeks in the country, but only Slavs. It is, however, pretty certain that the 1,500,000 of modern inhabitants are descendants of the three races that occupied the soil at the time of the Roman conquest, viz., Greeks, Thracians (mod. Wallachians), and Illyrians (Albanians).

Language. The Indo-European family of speech includes, in addition to Greek, the following branches: Hindu-Persian, Armenian, Albanian, Italian, Celtic, Teutonic, and Slavo-Baltic. Of these, that with which Greek was supposed to have the most affinities was the other classical language, Latin, and the two peoples were accordingly supposed to have dwelt together after leaving the original home, and to have jointly gone through a Græco-Italian period. This view, however, is exposed to many difficulties; the inflections of the Latin verb are more closely connected with Celtic, the syntax of Greek bears more resemblance to that of Sanskrit, and while the vocabulary of Latin is more closely bound up with that of the Teutonic languages, the Greek coincides more frequently with the Hindu-Persian. The dialects into which the ancient language was divided may be grouped as follows: (1) Ionic and Attic; (2) Doric, covering the Peloponnese and its colonies; (3) the n.w. dialects, those of Phocis, Locris, Ætolia, Acarnania, and Epirus; (4) [illegible] Lesbos, in Thessaly, Bœotia; (5) [illegible], Pamphylian.

The ancient dialects continued to be spoken, at any rate, till the time of Trajan [illegible] the end of the 2d cent. A.D. By 362 A.D., however, as [illegible] from a letter of the emperor Julian, and an anecdote [illegible] a few years later of Chrysostom, the common people were beginning to [illegible] difficulty in understanding ancient

Greek. Inflections then began to disappear, foreign words to debase the vocabulary, the quantity of syllables to be disregarded, Greek words to be mutilated in form and changed in meaning. None of these tendencies were new; they may be detected from the beginning of the life of the language, even in Homer. Nor are they peculiar to Greek. But the conditions were favorable to their development, as they never had been before, and rarely have been elsewhere. Foremost among these developing conditions must be placed the fact that for centuries the language was not a nation's organ of speech, nor the expression of a national life. Attempts are being made at the present day to revert to the use of ancient Greek—'correct' Greek—for literary purposes, but the spoken language is too far decomposed to admit of a successful infusion of ancient forms, and not sufficiently removed to have lost all connection with the ancient tongue.

Ancient Religion.—That the Greeks worshipped many gods, and those made in the image of man, needs not to be demonstrated. Let it be admitted also, for the purposes of this article, that religion is not the same thing as Mysteries (q. v.), or Mythology (q. v. also), and that the reader may be referred to the special articles on the various Greek gods for their respective attributes and legends. The question at once arises: In what sense of the word could the Greeks have a religion? Their mythology taught them that their gods were deceitful and approved of deceit (Athene), were cowardly, even the god of war (Ares), were guilty of cannibalistic infanticide (Cronos), incest (Cronos and Rhea, Zeus and Hera), bestial amours (Zeus), and, what was tantamount among immortals, parricide (Uranos, Cronos, and Zeus). And though Greeks did not spend all their days listening to these scandalous stories, they did every day perform a number of rites and ceremonies which were puerile, unmeaning, and absurd; while they showed the opinion they held of their gods by the faith which they had that they could buy their favor or buy off their disfavor by offerings. Nor can it be alleged that this is our way, not theirs, of regarding their myths and cults. From the time of Xenophanes to that of Heracleides philosophers and poets did not weary of denouncing the immorality and bestiality of these myths. Plato protested that the current theory of offerings and sacrifice made religion a variety of bartering in the celestial market—a sort of political economy of the spiritual world. Aristophanes and the comedians of the old school could put a god *in propria persona* upon the stage to be derided for his cowardice, lasciviousness, and gluttony. Under these circumstances, then, what sort of religion was it that the Greeks could have?

In the first place, whether it was that Zeus controlled the other gods or that he as well as they was guided by fate or destiny or necessity, the universe was, the Greeks believed as well as we, ruled for some good end. In other words, they had faith; and, which enlists our sympathies, that faith was tried. They were not slow to observe that though the good do often prosper and the wicked suffer in this world, the rule is far from absolute; and we find, e.g., in Theognis and Solon that they could not reconcile this with their faith; nevertheless they did not cease to believe. Again, whatever trust they put in the efficacy of sacrifice and rites and ceremonies, they nevertheless held that a good life was that which was most acceptable in the sight of the gods. They certainly believed that wrong-doing provoked the vengeance of heaven, and Æschylus was led to discover that the sins of the father were visited on the children, while to Herodotus and the Greeks generally their gods seemed jealous gods. If it be asked how far this could be reconciled with a belief in their licentious myths, the answer is as easy: what was right for the gods was not right for man, just as the schoolboy has no doubt that [illegible], but his father [illegible] not for himself to smoke, sit up at night, and so on; or the myths might be the invention of misguiding or misguided poets, or might mean something, and were not to be interpreted literally.

Next as to their conception of a future world. In the earliest (Homeric) times it cannot seriously have been a potent religious factor; [illegible]. If a criminal like Sisyphus or Tantalus is punished, heroes can hardly be said to be rewarded: the ghost of Orion [illegible] the dead man's spirit, to go hunting, but Achilles declares the meanest life on earth preferable to being king of the shadowy world. But in course of time, when it became impossible to believe that the good were always rewarded and the bad punished in this world, and when even the theory that the sins of the father are visited on the children was found an inadequate explanation of the sufferings of the innocent, the belief in a system of future punishments and rewards grew in strength, and in Plato's time (Rep. 330 D. and 363) was firmly held by the average respectable Greek. On the whole then it seems probable that in G. myth did not kill religion, and that it was not myth, but religion which dominated the morality of G., as it also dominated Greek art, especially sculpture.

The Greeks, therefore, were not without religion. How then did it differ from modern systems? The more educated Greeks were, in many cases, monotheists, Zeus being supreme, and the other gods his angels; and the conception of the paternal love of God was not strange to them. The essential difference is that the Greeks were not taught their religion by authority, whether of revelation, the state, or a priesthood. They had no revealed book (Homer and Hesiod fixed the theogony indeed, but not the religion); they had no priests having authority, and as long as a Greek performed the rites prescribed by the state he might interpret them as he pleased. Thus, though on the one hand there was nothing to prevent a man becoming a practical monotheist, on the other, for want of organization and authority, the many elements of good there were in the religion of the Greeks doubtless acted less potently than they might have acted. Let us remember, however, that had any dogmas been enforced, they might have been the wrong ones. Finally, it is in harmony with the Greek character generally that in G. there was no devil.

In modern G. the church is the orthodox Greek church, which is 'endowed' in that bishops and archbishops are paid by the state (the inferior clergy, however, by voluntary fees), and is 'established' in that the archbishops and bishops are nominated by the king, as is the synod of five which is supreme in the church; and that, except in purely spiritual matters, the synod is dependent on the government.

History.—The earliest fact in the history of G. of which we can feel certain is the Dorian invasion, or as the mythical version of this undoubtedly historic fact terms it, 'the return of the Heraclidæ.' Its date can of course only be approximately conjectured, but we may take it that the changes in the ethnological map occasioned by the Dorian invasion took about a couple of centuries to effect, and were completed about 1000 B.C. The Homeric poems relate events which the author or authors supposed to be prior to the Dorian invasion; but the supposed facts belong probably to the domain of myth, and the poems themselves were certainly composed after the Dorian invasion. Whether the remains discovered by Schliemann at Troy, Mycenæ, and Tiryns date from before or after the invasion is still a moot point. The balance of opinion is in favor of the earlier period, on ground that nothing but such a political cataclysm as the invasion could sweep away so completely the very memory of the dynasties which erected the marvellous monuments that remain to us. But even if the earlier date be assigned to these remains we are still in complete ignorance as to the name and even the race, of which they are the sole memorials. It was once the fashion to call everything dating from before the Dorian invasion Pelasgic, and imagine that thereby all was explained. The Pelasgi were a mysterious people about whom nothing was known, and conjectures were most divergent. Very frequently they were identified with the common ancestors of the Greeks and Italians. But a Græco-Italian period and people are now on the way to being discredited; and the Pelasgi, if we confine ourselves to facts, were an insignificant tribe of Greeks. Finally, we may dismiss the period antecedent to the Dorian invasion by noting that in it the Phœnicians were believed to have largely influenced Greek culture, but the extent of their influence is now universally admitted to have been exaggerated, and it is a question whether it must not be referred wholly to a later period.

Of the Dorian invasion itself, what we know is that the tribe which had occupied Epirus moved into the valley of the Peneus and were henceforth known as Thessalians; that probably in consequence of this the Arnæans, who then occupied Thessaly, were forced forward into the basin of the Copais, where they are known to history as the Bœotians; while from Doris bands of warriors kept crossing the Corinthian gulf, fought their way across [illegible] of the Peloponnese, and there founded Dorian settlements. Possibly to the same period we may assign the occupation of Elis by the Ætolians. Attica, lying out of the direct line of migration, which was from N. to S., was unaffected by these movements, except that fugitive families, especially of the [illegible] of Attica, took refuge there. On the other hand, it is to this movement that the Dorian state, Sparta, which was to be the great and victorious rival of Athens, owed its origin, and indeed we may say its subsequent greatness. The constitution and the peculiar institutions which made the Spartans a nation of soldiers are indeed referred, rather by myth than tradition, to a great legislator, Lycurgus. But they are in truth partly Indo-European customs preserved more faithfully by Sparta than by other Greeks, and still more the outcome of the perpetual struggle for existence which for generations was waged by the handful of Spartans against the large numbers of the native inhabitants. The Dorians settled in Sparta were [illegible] but a garrison in the beginning; and, to the end, their national life was that of the camp. Among the other consequences of the Dorian invasion that which most calls for notice is that in the various districts affected by it the original inhabitants were reduced to slavery; some being, like the Helots in Sparta, serfs attached to the soil, and belonging to the state rather than to any individual owner, others, like the Perioeci in Sparta, enjoying personal freedom, local self-government, though not political rights; and both being very different from the bought slaves, frequently or mostly foreign, who formed the foundation on which Athenian civilization, for instance, was based.

The effects of the Dorian invasion, however, were not confined to G. proper; among them must be included the expansion of Hellas in the wider sense of the word, and the colonization of the coasts of Asia Minor. Not all the original inhabitants of the district invaded remained to be enslaved; many fled over seas, the Æolians to found the Æolian cities, the Ionians to plant the Ionic colonies S. of the Æolian, while the Dorians found their way by Crete to the shores S. of the Ionic colonies. Of the law that colonies are more rapid in their development than the mother country the most conspicuous example is afforded by the Greek colonies in Asia Minor. The seeds of literature, art, and philosophy were sown and first put forth in the colonies, though to come to maturity it was in many cases necessary that they should be transported to the mother country. In political life and [illegible] the stages through which G. proper went were all [illegible]. The change by which monarchy was set aside by aristocracy did indeed perhaps take place about the same time in [illegible] the colonies; we have little evidence how it took place anywhere. But the change by which aristocratical government was overthrown, and democracy established was undoubtedly more rapid in the colonies. A colony is not the place in which privilege flourishes; tradition is less potent and individual energy more certain of its reward than at home. It was in the colonies then, not the [illegible], that the custom which preceded law was first reduced to writing, and the [illegible] withdrawn from the privileged classes. It was in the colonies also that tyranny was first invented. A Greek tyrant was usually an aristocrat who under the pretence of relieving the misery of the people acquired a power which he used for crushing his own class and the people alike beneath his own illegal, personal, and violent sway. As he acquired his power by force, so by force he maintained it, and so by force he lost it generally in a very short time. Though we must not forget that Syracuse under the tyrant [illegible] power, and later his successor, the magnificent Hiero, almost made Sicily one state.

[illegible] development of the Greek cities [illegible] than by the large [illegible] they [illegible] founded. The settlements on the Black Sea, e.g. Sinope, Trapezus, Cyzicus, were [illegible] those in the farthest W., e.g. Marseilles. [illegible] from hence the coasts of Ma[illegible] and it was the [illegible] the colonization of the W. [illegible] in Sicily Naxos. A notable mother of colonies was Corinth; Corcyra, Leucas, Anactorium, Ambracia, [illegible], and Syracuse were all sprung from Corinth, and [illegible]. The [illegible] three of the [illegible] of which the Mediterranean consists passed out of the hands of the Phoenicians, who had [illegible] monopolized them, into the hands of the Greeks [illegible] the Phoenicians were [illegible], but eventually the Carthaginians [illegible] with the Etruscans, defeated [illegible] secured the safety of their possessions in Africa, and [illegible] towns left them in Sicily. Great, however, as was the expansion of Hellas and her colonies, no Greek state ever possessed a [illegible] the colonies could not and would not be governed from home. The difficulties of communication and the Greek love of autonomy secured the independence of the colonies as far as the mother-states were concerned, but not as against neighboring and foreign powers. Thus, the Asiatic Greeks fell an easy prey, first to the Lydian monarch Crœsus (560), and then to the Persian Cyrus, the conqueror of Crœsus (546). And thus the Persian empire was brought into the necessity of absorbing or endeavoring to absorb G. in the same way as the Roman empire was compelled to annex Britain; in the one case Britain, in the other G., offered a refuge and a *point d'appui* to fugitives and instigators to revolt. In the one case Gaul, in the other the Asiatic colonies, would never cease struggling for independence as long as their kinsfolk across the sea were free. What the course of events was which raised up in G. a power competent to repel the flood of barbarism which threatened to extinguish the art, literature, and philosophy of G., and therefore of the world, we must now briefly state.

The weakness of G. in the face of an invader was that although the Greeks were no longer nomads, but had reached the stage of city life, and although the bond of blood and kinship was being displaced by the tie of neighborhood and territorial organization, the numerous communities were subject to no central government. The state of things in G. may be compared—reasonably, for it had its origin in similar circumstances—with that in England at the time of the so-called Heptarchy, except that there were many more than seven independent states in G., and scarcely any of them were as large as even a small English shire. Most of them were cities with but three or four miles of territory; only two succeeded in reaching the size of an English county. Those two were the greatest names in Greece, Attica and Sparta. By what process of coalescence or *synoikismos*, as it is called, the various village communities of Attica became united with Athens for the seat of government, we know not. Nor can we do more here than say that before the Persian wars Attica had passed through several social and political and politico-economical crises; Solon's reforms remedied the latter, but his political measures did not prevent the institution of a tyranny, that of Peisistratus and his sons. The tyrants, however, were expelled, and the democracy of Athens placed on the path which it was to follow by Cleisthenes.

Meanwhile in the Peloponnese Sparta was obtaining that position of supremacy which subsequently enabled the Greeks to offer resistance to the Persians with some show of unity. Not only did Laconia stand to Sparta somewhat in the same relation as Attica to Athens, but Sparta conquered the neighboring territory of Messenia (after two desperate wars), and deprived Argos, hitherto the leading state in the Peloponnese, of the district between Parnon and the sea, and of Cythera. Here, however, Sparta's career of conquest and annexation was arrested by the sturdy and successful resistance of the small city of Tegea; and henceforth Sparta's policy was confederation, not annexation. The league of states which had followed Argos was broken up; Epidaurus, Phlius, Trœzene, Hermione, and even Ægina went over to Sparta. Elis had become bound by community of interest to Sparta in the Messenian wars, and Tegea and Arcadia, having resisted annexation, submitted to confederation. Thus, in the Peloponnese at least, Sparta was the undoubted leader of the Greeks; and outside the Peloponnese, Athens promptly set the example of acknowledging Sparta to be the proper leader of all Greece against the Persians. But in 490 B.C., when Datis and Artaphernes, at the command of Darius, led the first Persian expedition against Greece, it was Athens alone that withstood them, and single-handed won the glorious victory of Marathon, thanks to the genius of Miltiades and the valor of her sons. For a time the danger of invasion was averted, but only for a time. If, however, Xerxes, the successor of Darius, availed himself of the interval for enormous preparations, Athens also, under the keen-sighted guidance of a great statesman, Themistocles, was also preparing that navy which was to prove fatal to the hopes of Xerxes. The number of that monarch's forces is beyond our means of estimating; we may safely say it was the greatest army that ever took the field. The Greeks' first line of defence, the pass of Tempe, was given up because it could be turned. The second, Thermopylæ and Artemisium, was turned, and the Greeks' heroic defence was nullified by the hesitation and [illegible] of the Spartan government. Then the Persians ravaged Attica and destroyed Athens, but not the Athenians. They had fled to their fleet and the island of Salamis, and there they defeated, thanks to Themistocles, the Persian fleet, and sent the Persian monarch home in fright (480 B.C.). Then, [illegible] the Spartans made up their minds to join the Athenians in [illegible] the Persian commander who had been left behind in G. with a large force. With his defeat at Platæa (479 B.C.) and the victorious attack made by the Greek fleet on the enemy in his own waters at Mycale (479 B.C.), the Persian wars came to an end, and the seeds of a far more fatal struggle, because internecine, were sown. That struggle was between Athens and Sparta.

The position of undisputed leadership which Sparta had enjoyed at the beginning of the Persian wars she had lost before the end of them. For this the main reason must be admitted to be that Sparta acted with disgraceful selfishness, Athens with glorious self-sacrifice, throughout. When, therefore, the Greeks of the islands formed a league (the confederation of Delos) for defense against the Persians, it is not surprising that the foremost place in it was accorded to Athens. In course of time many members of the league preferred to pay monetary contributions rather than supply ships and men; Athens, on the contrary, was ever eager to provide both men and ships. Thus Athens came to have the power of the sword, and therefore of the purse, in the confederation, which now was practically constituted not of allies, but subjects. Not content with the command of the sea she thus acquired, Athens, by a series of victories and under the guidance of Pericles, attained a position of commanding influence in continental G., which, however, only endured from 456 to 445. In spite, however, of the loss of influence occasioned to Athens by her defeat at Coronea (447), and in spite of the Thirty Years' Truce concluded in 445 between Athens and Sparta, in 432 Athens and Sparta, making a quarrel between Corinth and Corcyra their pretext, began their great duel, the Peloponnesian war. Sparta was by its constitution a predatory, Athens an industrial, state. The Spartans were farmers, the Athenians merchants. Sparta's strength was on land, Athens' on sea. Sparta prided herself on the ignorance of her sons, Athens on being herself the instructress of G. Sparta represented and received the support of oligarchy; Athens, democracy. For thrice nine years, as the oracles prophesied, the war lasted. Its varied and tragic fortunes cannot here be traced. Suffice it to say that there were three things which brought about the defeat of Athens: the early death of her greatest statesman, Pericles; her attempt, magnificent and tragic, to conquer Sicily; and the Persian gold which Sparta was base enough to accept and use.

Thus the supremacy of Sparta (404-379) was established. But it was no sooner established than a reaction set in against it. Sparta had proclaimed in the Peloponnesian war that her policy was to restore to the Greeks the freedom which the Athenians had robbed them of. True it is that Sparta broke up the confederacy of Delos; but she did not give freedom to Athens' late subject allies. She merely substituted for democracy oligarchic governments, and placed in each town a Spartan harmost, or governor, whose excesses and violence made Sparta loathed. At the same time it was not the interest of the Persian king to allow Athens to be entirely crushed, or any single state to have preponderating power in G. Thus an anti-Spartan coalition was formed, and in spite of the peace of Antalcidas (387), the terms of which were designed to prevent the formation of any more such confederations as that of Delos, in 378, Athens was enabled to form a new confederacy and to carry on hostilities with Sparta. These hostilities were not decisive, but they allowed Thebes to unite all Bœotia into a single state, and by the genius of Pelopidas and Epaminondas so to consolidate its power as to defeat Sparta at Leuctra (371) and establish a Theban supremacy. Sparta had to withdraw her harmosts from all cities, and everywhere the democrats [illegible]. Arcadia was made into one state, with [illegible] as its capital, and Messenia was made independent of Sparta. But Thebes was wholly unequal to the position which she aspired to occupy. Athens joined with Sparta in resisting [illegible], and when Pelopidas [illegible] in 362 Thebes [illegible], and with them all [illegible].

The [illegible] with which Greek, like English, history begins had [illegible] the Greeks travelled no further [illegible] of [illegible]. If the [illegible] it was because [illegible] monarchy, if indeed it ever existed, passed away before history begins; and the spirit of autonomy, begotten of republican rule, was centrifugal in tendency. Meanwhile in Macedonia, whose inhabitants, if not of Greek blood, were not distantly akin to Greeks, a kingdom was forming which was destined to impose on G., from without, the only unity it was capable of receiving. The steps by which Philip of Macedon made himself master of G. were well marked and rapid. The first places to be absorbed by the expansion of Macedonia were the Greek colonies on the coasts of Thrace and Macedonia, in 357 Amphipolis and Pydna, in 356 Pangaeum, in 353 Halonnesos, Abdera, Maronea, Methone; and in 348 the fall of Olynthus and its 32 confederate towns gave the whole coast as far as the Hellespont into the hands of Philip. The next step to take was to obtain a footing in the internal affairs of G., and this he succeeded in getting, as far as n. G. was concerned, in the sacred war (355). Thebes having in vain endeavored to impose its supremacy on Phocis, abused its influence over the Amphictyonic council to declare a sacred war against the Phocians. The latter found assistance at the hands of the tyrants of Pherae in Thessaly, and the aristocracy of Thessaly consequently placed themselves under the protection of Macedonia. Meanwhile, even Athens had at last given ear to Demosthenes' denunciations of Philip, and opened her eyes to the danger which threatened her, when her own colonies were captured by Philip and war had been declared, though not immediately waged, against Philip by Athens. But the sacred war ended (346) in the destruction of the Phocians; and Athens, having ruined herself by procrastination, concluded a peace with Philip which confirmed all his gains and ratified all her losses. As yet Philip had found no excuse for interfering with the affairs of the Peloponnese; but this was afforded him in 344 by an ill-timed revival of Sparta's pretensions, which drove Messene, Argos, and Megalopolis into the arms of Philip, in spite of Demosthenes' propaganda in the first two places. In 340 Athens, having formed extensive alliances, felt strong enough to openly declare war against Philip. In 339 she saved Byzantium from his attacks, and thereby kept open the route by which her own corn came from the Black sea. In 338 she at length and too late consented to Demosthenes' proposal to convert the moneys hitherto devoted to public amusements to military purposes. But the fatal field of Chaeronea was followed by the peace of Demades. Philip was acknowledged master of G., and elected general of the Hellenic forces against Persia; but before he could commence his invasion of that country he was assassinated by a private enemy (336). A general rising against the Macedonian power was promptly nipped in the bud by Philip's son and successor, the world-famous Alexander. His first act was to suppress the attempted revolt by utterly destroying Thebes. In 334 he commenced his invasion of Persia. We can but enumerate his chief victories: in 334 his victory at Granicus gave him Asia Minor on this side of Mt. Taurus; in 333 he defeated Darius in the battle of Issus; in 332 he stormed Tyre and Gaza, and founded Alexandria; in 331 he finally overthrew the Persian empire in the battle of Arbela; in 326 he crossed the Indus, but farther his troops refused to follow him. He then sailed down that river to the Indian ocean, and thence marched to Babylon, where, while preparing to invade Arabia, he fell ill and died (323). Alexander not merely conquered Asia Minor: he planted Greek colonies in it, and these centres of culture discharged functions of the highest importance in the history of the world. They gave to Greek culture, Greek literature, thought, and art, even to the Greek language itself, a career independent of and unaffected by the fate or decay of Hellas itself. They made Greek the language of the civilized world, though it is true that it was not pure Attic, but the 'common' dialect, Hellenistic Greek. Yet the language of the New Testament. In Alexandria were sown seeds for the fruits of which we refer to the section on the literature. Finally it was from these colonies that the Mohammedans drew their acquaintance with Greek learning, so that in the time of darkness, when the very tradition of Greek learning had perished from out of w. Europe, the Mohammedans were busy studying Aristotle even in Timbuctoo.

The death of Alexander was the signal for a fresh struggle for independence, but the Lamian war ended with the battle of Crannon (322) in the victory of the Macedonian general Antipater and the extinction of political liberty in G. In the struggles between the Diadochi ('the successors') for empire, G. was the battle-field. Even when the various generals had made themselves monarchs of the kingdoms into which Alexander's empire split, and G. was left unappropriated, the efforts of a statesman such as Demochares to obtain a position of independence for Athens by playing off one monarch against another were fruitless. All that lends interest to the next period, that of the [illegible], is that a new form of political coalescence—federation—was tried, and with some success, by the Ætolian and Achæan leagues. But the centrifugal tendency in Greek politics was manifest in Sparta's refusal to join the latter league, which thereon invoked the assistance of Macedonia. Macedonia's interference between Rome and Carthage led to the defeat of Philip V. at Pydna, 168 B.C.; and in 146 Corinth was destroyed by Mummius, and G. became in fact, if not at once in form, a province of the Roman empire. As such there is nothing here to say of it. Nor at a later time has G. a history separate from that of the Byzantine empire (q.v.). In 330 A.D. Constantine was converted to Christianity, and founded a 'New Rome' in Constantinople. In 395 G. was ravaged by the Goths under Alaric. In 747 a great pestilence depopulated large parts of the country, into which Slavonic tribes [illegible]. In [illegible] the Bulgarians laid the country waste, but were finally defeated by Basil II. The final separation of the e. and w. churches took place in 1054.

In the year 1453 Mohammed II. made himself master of Constantinople and, along with other portions of the empire of the e., of G. proper. Cyprus and Crete (which had been in the possession of the Venetians) and the other Greek islands gradually passed into the hands of the Turks. Crete came under their power in 1669. Twenty years after, the Venetians again began war in the hope of regaining their Greek possessions, and succeeded in winning back the Peloponnese, only to lose it again in 1715. Under Turkish rule the Greeks were allowed to become comparatively wealthy, as in the Turkish empire the function of the subject races is to provide for the sustenance of the ruling Turks. With wealth came the spread of education and culture, and a revived consciousness in the Greeks of what mighty dead they were the descendants. Thus the soil was gradually and naturally prepared for the seeds sown by the French revolution; and in 1821 the war of independence broke out. In less than a year the Turks were turned out and Greek [illegible]. But civil war ensued, nor was this [illegible]. The leaders of the revolution were men who had acquired what [illegible] they had [illegible] in the service of the Turks, and had [illegible] in a bad school. The cold suspicion with which the struggle for liberty had at first been watched by Europe was [illegible] for warm sympathy and pity, owing to the [illegible] perpetrated by the Turks, so that when in 1824 the latter by [illegible] troops from Egypt, succeeded in regaining possession of G., there were not wanting volunteers from England and elsewhere to [illegible] the Greek forces. In 1827 the Turkish fleet was destroyed at Navarino by the fleets of England, France and Russia [illegible], and the Turks were driven out of G., and in 1829 [illegible] recovered their liberty. In 1832 Otho of Bavaria was made king, but he ruled despotically, and in 1862 had to leave the country. A son of the king of Denmark was then [illegible] of George I. He was born 1845, Dec. 24. His son [illegible] 1868, Aug. 2, is the heir apparent.

[illegible] a single chamber of representatives [illegible] by the [illegible] representatives, [illegible] for a period of four years. [illegible] to the Boule. [illegible] consisted of [illegible] president [illegible] D. Dragoumis, minister [illegible] of the interior; D. S. Vaul[illegible] minister of marine, and acting [illegible] divided for administrative purposes [illegible] departments, which are again subdivided [illegible] under councils or [illegible] governed by [illegible] power to levy the local rates, [illegible]. The [illegible] of local [illegible], five [illegible] at Athens. [illegible] army is maintained [illegible] some 25,000 Mo[illegible] than 300 [illegible] some [illegible]. The [illegible] by government and by the communes, [illegible] of free and [illegible] outside the towns, and the [illegible] of the people are illiterate. The revenue rose in [illegible] from $9,951,404 to (estimated) $16,974,512; the expenditure increased from $12,242,980 to $20,876,872 in 1885, but was estimated at $15,483,937 in 1890. The total debt of G. as on 1890, Jan. 1st, was officially stated at $90,188,753, besides a floating debt of $17,170,000; and to this must be added the kingdom's portion of the Ottoman public debt and certain other dues to Turkey. Fully a third of the expenditure is absorbed by the interest on the debt, and a fifth by the ministries of war and marine. In 1889 the nominal strength of the army on a peace footing was 24,076, comprising 16,136 infantry, 4,877 cavalry, and 3,063 artillery and engineers, which in the event of war could easily be raised to 100,000; all able-bodied males are liable to service, which includes one or two years with the colors, eight or seven with the reserve, and ten in the landwehr. The budget of 1889 provided for an army of 26,113. The navy consisted, in the beginning of 1890, of two small ironclads armed with ten-ton Krupp guns, one wooden vessel, 30 torpedo boats, two unprotected corvettes, two cruisers, and 16 gunboats. The steel battle-ship, the Hydra of 6,000 tons, and the Psar of 4,800 tons, have been launched, and the Spezzia is nearly ready; these have a speed of 17 knots, and are protected by 12 inches of armor and are heavily armed. The officers and men number 3,361, the men being recruited by conscription among the seafaring population and by enlistment.

In 1879 the area of G. was 19,880 sq. m., with a population of 1,679,775 (1,457,894 in 1870); the Thessalo-Epirot districts incorporated with the kingdom in 1881 (as an outcome of the Berlin treaty) added to this a territory of 5,161 sq. m., with a population of 294,677: total, 25,041 sq. m. (less than half the area of England), with 2,187,208 (1889) inhabitants (less than one-twelfth of the population of England). Besides the Greeks of the kingdom, the Greeks in the various parts of the Ottoman empire (notably in Constantinople, Macedonia, the w. parts of Asia Minor, Crete, Cyprus, and the smaller islands) number above 6,000,000. The population showed a remarkable excess of males over females, in the proportion of 107.6 to 100. Athens, the capital, had in 1889 a population of 114,355; the towns next in size being Patras, Piraeus, Hermupolis, and Corfu, all above 25,000; and there are four others between 20,000 and 10,000. G., although one half of its area is pasture land or waste, is mainly an agricultural country; but the land is mostly in the hands of peasant proprietors; agricultural machinery is unknown in many districts, and the implements of husbandry are of the most primitive type. Besides cereals, fruits, sugar, tobacco, cotton, and dyestuffs are raised. The chief articles of export are currants (about half of the total), lead and other ores, olive oil, wine, honey, sponges, etc. The principal imports are cereals and textile goods. In 1887 the special imports and exports were valued at $22,414,380 and $17,150,252 respectively; in 1888, at $18,355,940 and $16,261,186. Nearly a third of the total trade is with Britain, and about one-seventh each with Russia and France. The herding of sheep (3,465,000) occupies about nine per cent. of the people; the sponge and coral fisheries employ more than 800 boats. The minerals of G. include lignite, argentiferous lead, zinc, magnetic iron, and marble. In 1889 there were some 1,200 flour mills worked by water and wind, and less than 30 by steam; over 700 distilleries; and numerous dye-works, tanneries, and manufactories of machinery, cotton and silk goods, etc. Four hundred and forty miles of railway were open, and 245 in course of construction, and there were nearly 4,400 miles of telegraph lines. For the canal across the isthmus of Corinth, see CORINTH.

Literature.—The distinguishing characteristic of classical Greek literature and the clue to its development is the fact that it was oral, that it was in all cases composed, not to be read with the eyes, but to be delivered by the lips and heard by the ears. It is the distinguishing characteristic because, when Greek literature ceased to be oral it ceased to be classical; and it affords the clue to the evolution of classical Greek literature because that literature went through a series of forms—epic, lyric, dramatic, historical, oratorical, and philosophical—which forms were determined each by the changing nature of the circumstances under which the composer addressed his audience. These circumstances varied, not capriciously, but directly with the change of social and political conditions. Thus, in ancient G. the form of literature prevalent at any given period was the expression and outcome of the form of society existing at that time; and hence the history of the literature is but one aspect of the history of the people. That the place and occasion on which an audience is gathered together determines the form of that which is addressed to

It is plain enough in the case of a sermon and a play. That it was not the author who determined whether a play or an oration should be most popular is explained by the fact that it is the great public which it is most artists' ambition to please; and it was circumstances which decided that the great public in Athens should be found at one period in the law courts rather than in the theatre, at another in the theatre rather than in the law courts. When political liberty was extinguished in G. there ceased to be a great public; works were composed for the approval of learned and narrow cliques, and classical Greek literature was at an end. Without a great public, no great artist.

We now propose to trace the successive forms through which classical Greek literature went, and to show to what social and political causes these were due. For details as to the lives and works, and for criticism on the genius, of individual authors, we must refer to the articles in which they receive individual attention. In the literature of G., as of other countries, verse preceded prose, partly because the pleasure verse gives to the ear is much more pronounced and more easily produced, and partly because verse is so much more effectually retained in the memory—a point of cardinal importance when writing is as yet unknown. Of poetry, the first form to appear in G. was epic. An epic poem is a narrative poem; and the epics of Homer—the only epics that have come down to us, though by no means the only epics composed—are of considerable length. This fact, which has been regarded since Wolf as indicating that the poems could not have existed at such length when writing was either unknown or not used for literary purposes, is really the best proof that they belong to the most ancient period of Greek literature. That poems as long as those of Homer may be handed down by memory is beyond doubt. The question is, when and where a public could have existed for whom we may suppose them to have been composed. They cannot indeed have been recited at a single sitting; therefore they cannot have been composed for audiences such as those at the great Greek festivals. They must have been composed for an audience small enough to be gathered together night after night until the whole had been recited. Further, the audience must have been such as it was a pride for the artist to address. The only audience which satisfies all these conditions is that which is constantly described in the Homeric poems themselves, the gathering in the hall of the chieftain of the village community, which was the earliest form of Greek as of English society. At no other period of Greek history was there an audience for whom we can conceive a poet composing such poems as those of Homer.

When in the natural course of development the village community expanded into the city state, the village chieftain's hall ceased to be the centre of society. Society now consisted of the members of the aristocratic or oligarchic families. They cared not to hear of the past glories of the heroic ancestors of those chieftains whom they had themselves helped to put out of power. Nor was the same audience gathered together night after night in any great house; symposia [illegible] were held, very frequently, but the guests were not always the same. Song, again, was as much in request as ever, but the songs were from [illegible] from the present, not from the past; [illegible] love, wine, and politics. [illegible] Greek literature was that of lyric poetry [illegible] Anacreon, Archilochus, [illegible] form of lyric, which [illegible] special mention, not because [illegible] that of other lyric poetry, [illegible] reference to the present [illegible] length of treatment [illegible] form of Greek verse [illegible] the victory of some [illegible] works of the [illegible] performed. The [illegible] to the former class [illegible] addressed to Dionysus [illegible] Drama was evolved. Unfortunately of these odes [illegible] we have not a specimen. [illegible] were the great composers of this class of lyric.

That an ode [illegible] should first be accompanied by sympathetic gesture and action, and should then come to be really acted, [illegible] And that the gestures should be especially realistic at the festivals of the god of wine is not hard to believe. But it is not probable that literary form would have been given either to the more or to the less solemn side of this piece of ritual had it not been that present on these occasions was a public greater than any that a poet had hitherto been able to address—i.e., the whole of the community gathered together for an act of public worship. The development of the drama was the work of democracy. A greater audience was provided at the public festivals of a democratic state than could be found in the house of any oligarch; and genius at once deserted the form of literature adapted to the symposium for that by which it could reach the ears of the people at large. At the same time the drama, though it required other powers as well, afforded scope for the exhibition of both epic and lyric power. The chorus, out of which the drama grew, was still retained in the drama; and thus lyrics were an essential part of the play. On the other hand, much of a Greek play consists in the narrative of what has occurred off the stage. The number of dramatic poets produced by G. was very great; for us the tragedies of Æschylus, Sophocles, and Euripides—'The Three'—and the comedies of Aristophanes, are the Greek drama.

But the drama is not the only form of Greek literature for which we have to thank Greek democracy. To it we owe all three forms of prose literature—history, oratory, and philosophy. For now at length, after composition in verse had been practiced for some four centuries, composition in prose was attempted, which—seeing that the Greeks had spoken prose all the time, even as M. Jourdain—seems strange. In fact, however, a really original idea, indeed even a moderate departure from what 'is always done' on a given occasion, is not of frequent occurrence in the history of the world. The mere conception that it was possible to compose otherwise than in verse seems not to have occurred to any one. Then, to put on paper a series of connected ideas, when one has them, is not a matter of absolute ease and simplicity. It is quite conceivable that it may have been easier to write in verse than in prose; the earliest philosophers—Xenophanes, Parmenides, Empedocles—apparently found it so. When, however, the idea of prose composition had been once struck out, it was, thanks to the encouragement afforded by the great public, rapidly worked out in various directions. So rapidly indeed that it is difficult to say whether oratory, though distinctly posterior to history, is or is not to be ranked as earlier than philosophy. As, however, the style of the greatest writer of philosophy, Plato, would certainly not have attained the perfection it displays had not some of the orators previously demonstrated what could be done with the language in certain directions, we may consider philosophy to be the latest of the three forms of Greek prose literature and to correspond to the latest of the three forms of Greek verse literature, the drama, in that each resumes in itself the two forms which precede it. Narrative and argument both find their place in philosophy, as lyric and epic in drama. Oratory, like lyric, is the expression of the individual man dealing with the present. Prose begins with narrative in the form of history, as verse begins with narrative in the form of epic.

Again, it is somewhat difficult for us to realize that history could have been composed for oral delivery. But the fact remains that, though in the time Xenophon, the most recent of the three historians whose works have survived, there was a trade in books, at the time when his predecessors Thucydides and Herodotus composed their works there was no reading public for whom they could have intended their histories. Herodotus, the father of history, probably recited his at the great national festival of the Olympian games. Thucydides as much as states that he wrote for posterity, and implies that in so doing his design was singular.

In the case of oratory, the essentially oral nature of this form of literature is patent. That it should have been developed as a form of literature when it was is due on the one hand to the cultivated taste of the democratic dicasts or jurors who demanded literary merit in the speeches addressed to them, and on the other to the frequent access to the great public afforded by the law courts to aspiring genius. The accident that at Athens a suitor was compelled himself to speak on his own behalf, and therefore evaded the intention of the law by getting a professional speech writer to compose a speech for him to learn and deliver as his own did much to open the law courts to literary genius and to develop eloquence. Of the orators we are fortunate enough to have considerable remains of Antiphon, Andocides, Lysias, Isocrates, Isæus, Æschines, Hyperides, and, greatest of all, Demosthenes.

Finally, the third form of Greek prose literature, philosophy, was essentially oral. Socrates, who gave to philosophy the direction it has followed to this day, never wrote a word. Plato and Aristotle lectured, and if they also wrote, it was that their written teaching might be read aloud in the schools they founded, after they were gone.

In nothing is the post-classical period of Greek literature more remarkably distinguished from the classical than in the fact that we no longer find one form of literature cultivated at a time, but all kinds simultaneously. If the term 'post-classical' is sometimes employed, and sometimes justly resented as being almost a term of reproach, it must be admitted on the one hand that Theophrastus, Theocritus, Menander, Plutarch, Lucian, are names that would adorn even a 'classical' period, and on the other that, notwithstanding these great names, the post-classical period created no new form of literature, that, viewed as a whole, it can point to no progress made in any of the forms already created, and that all its activity, which was enormous, was in the direction of deterioration. When we pass from the classical period to the post-classical, we have as our guiding principle not development, but decay. In the Alexandrine period (322-146 B.C.) this is less notable than in the ages which succeeded it up to the fall of Byzantium (1453 A.D.), though it is unmistakable. The Alexandrine period is so called because Alexandria, the colony founded by and named after Alexander, became, thanks to the learned liberality of the first three Ptolemies, the seat of two great libraries, and the greatest centre of literary culture. But, though the greatest, it was by no means the only such centre of culture in the age to which it gives its name. Egypt was not the only one of the kingdoms that rose from the ruins of Alexander's empire which could boast of a literary capital supported by the liberality of its kings. Antiochia, Pella, and, above all, Pergamum, vied with Alexandria; and the rivalry of Pergamum was only extinguished when Antony sent its magnificent library of 200,000 vols. as a present to Cleopatra. But before this Pergamum had had time by its cultivation of rhetoric to affect Rome and Roman oratory in no small degree. Nor were the true Greek abodes of literature at once deserted by the Muses during this, the first period of decline. In Athens the new comedy, with Menander for its great representative, and philosophy, with Theophrastus as its chief, still flourished. In Syracuse there was developed, not, indeed, a new form of literature, but a new mixture of ancient forms—bucolic poetry, which is a mixture of the narrative and the dramatic forms, while, although the usual employment of the hexameter might approximate it to epic, the recurrence of a refrain gives it a lyrical air. History can be said to exhibit, at the most, incipient decay in a period which can point to Polybius, to say nothing of Berosus and Manetho, and epigrammatists were numerous. Aratus, indeed, the greatest of Alexandrine didactic poets, and Apollonius, the greatest epic poet of this period, have done nothing that they should be compared with 'classical' writers of hexameters. But it is not on its poetry that Alexandria can base its claims to our gratitude; it is on all that the librarians of Alexandria did to preserve the stores of classical literature.

Succeeding ages produced several respectable prose writers—Pausanias, the archæologist, Arrian 'the second Xenophon,' Josephus the historian—and two great prose writers, Plutarch and Lucian; but in poetry they were yet more barren than the Alexandrine period. Again, a string of lexicographers and grammarians—Julius Pollux, Hesychius, Suidas, Photius—did valuable work on the classics. In fine, the post-classical period was critical, not creative; it cared more for matter than for form; its poetry was based on classical models and was generally frigid and pedantic, as its learning, though spent upon the classics, was too often trivial, pedantic and puerile; in two words, its chief features are imitation and affectation.

Compositions in modern Greek have been found dating from before the fall of Constantinople, but modern Greek literature is considered to have begun after 'the conquest.' For the first three centuries, however, we do not find prose works written in the modern language. We find poetical versions of Western romances and we find the famous Kleptic songs, the songs of the Greeks who, rather than submit to Turkish rule, took to the mountains and lived a life of liberty, if of brigandage. But the prose works of this period are written in ancient Greek. If the rule of the Turk produced the songs of the Klephts, the dominion of Venice allowed of the production of poems which possessed more literary form though less poetical merit than the Klephtic chants. Such were the *Erotokritos* of Cornaro, an epic, or rather a pastoral poem, rather lacking in interest, and only occasionally relieved by a touch of imagination, and the *Erophile* of Chortakis, a tragedy defective in form, though containing lyrics of some value. In the 18th cent. poetry declined to a still lower level; and the honor of literature was chiefly maintained by the erudition of ecclesiastics, such as Lucaris, Miniatis, Meletios, Theotokis, Bulgaris. With the 19th cent., however, began a new era in the history of modern Greek literature, and this was mainly the work of Coraïs (q.v.), himself the greatest name in the era which he inaugurated. Since his time the number of authors G. has produced is strikingly large, some writing in modern, others in 'correct,' Greek. Of them we may mention Panagiotis Soutsos, whose best work is contained in his dramas; Alexander Soutsos, the satirist; Rigas, the author of the song translated by Lord Byron, 'Sons of the Greeks, arise,' and other poems which were the clarion whose notes still echoed in 1821 and first roused G. from her slumbers; Villara, the lyric poet; Christopoulos, the Anacreon of modern Greek; Neroulos, the tragedian, distinguished for the fire of his imagination and the force and vigor of his diction; and last, the great scholar and still greater poet, A. R. Rangabé.

The periodical literature of modern G. has not been wanting in quantity and merit. It may be dated from 1811, when the Logios Hermes appeared (printed in Vienna); and a philological journal of the same title was begun afterward. The Æginaea appeared in 1831, edited by Mustoxidis, and named from the island where it was published; it was issued in three languages. In 1838 the Iris, a literary review, was founded. In 1855 a military journal was commenced in Athens, and in 1857 an archæological journal, of which Pittakis and Rangavi were contributors. The Syllogos, a learned society with headquarters at Constantinople, has been very active of late years in reviving Greek literature and science; it includes in its membership many of the leading scholars and investigators of the orient and of Europe; and has published at great expense and in facsimile not a few ancient inscriptions and manuscripts in its proceedings. The Pandora was a leading periodical 1850-72. Of serials now or of late issued Physis is devoted to natural science, Geoponica to agriculture, and Hieromnemon to theology. Of the newspapers begun during the revolt against Turkey the most came to an end under the press law of King Otho. In 1834 the Saviour was established as a government paper, and the Athena as organ of the opposition. In 1882 there were 89 periodicals, of which 52 were published in Athens.

The Greek revolution of 1821-8 excited great sympathy, both sentimental and practical, in the United States, inspiring some of the best orations of the time, and the admirable poem on the death of the patriot Bozzaris, by Fitz Green Halleck.

On the land of G. see W. M. Leake, Travels in Northern Greece; Wordsworth, Greece; Tozer, Geography of Greece; Lolling, Hellenische Landeskunde und Topographie. On the language, Brugmann, Grundriss der vergleichenden Grammatik der indogermanischen Sprachen; and Mullach, Griechische Vulgarsprache. On the people, Schrader, Prehistoric Antiquities (trans. by F. B. Jevons). On the history, the works by Thirlwall, Grote, Curtius, and Finlay; Pöhlmann, Grundzüge der politischen Geschichte Griechenlands; A. Holm, Griechische Geschichte; Jevons, Athenian Democracy. On the literature, books by Müller, Col. Mure, Mahaffy, and Sittl; W. Christ, Griechische Litteraturgeschichte; Jevons, History of Greek Literature; Rangabé, Histoire Littéraire de la Grèce Moderne; Dr. Clon Stephanos, La Grèce au Point de Vue Naturel, Ethnologique, Démographique et Médical. See also the articles

Alphabet.
Anthology.
Art.
Athens.
Corinth.
Drama.
Government.
Inscriptions.
Music.
Mysteries.
Mythology.
Painting.
Philosophy.
Poetry.
Sculpture.
Theatre.

GREENLAND, *grēn-land:* an extensive region, stretching, so far as we know, from 59° 45′ to 83½° n. lat. and from 17° to 73° w. long., its n.e. extremity, however, being not yet accurately defined. It may be taken as proved that it constitutes an island engirt by smaller islands, but an island of almost continental size. Even its s. end has a thoroughly arctic character. It was discovered by the earliest Scandinavian settlers in Iceland. After having been sighted by Gunnbjörn, it was visited by Erik the Red, who, after having explored it, founded there in the year 986 two colonies, the Österbygd and Westerbygd (e. and w. settlements). The colonies afterward came under the dominion of Norway, but were neglected and suffered from disaster and privation. Finally, the Westerbygd was attacked and destroyed by Eskimo invaders from the n. some years after 1340. Subsequently the connection with Europe gradually grew less and less, until, according to obscure accounts, it wholly ceased after 1448, and G. almost passed into oblivion. When it was rediscovered by John Davis in 1585 the Eskimo were the only inhabitants. In 1721 the modern Danish settlements on the w. coast were founded by Egede (q.v.) as missionary stations. During the three centuries since Davis' discoveries the question of the site of the ancient colonies, and the possibility of remnants of a Scandinavian population being found somewhere, have been the subject of much discussion; they have even given rise to several expeditions. Remarkable ruins of undoubted Scandinavian origin were early discovered on two points of the w. coast, one in the present district of Julianehaab between 60° and 61° n. lat., the other in Godthaab between 64° and 65°. In each case the ruins lie scattered over an area of some hundred square miles, occupying small flat and fertile spots around the heads of the fjords. The s. group contains about 100 such spots, each with ruins of from two or three up to 30 houses; the n. group is much poorer. As early as 1830 it was believed that the s. ruins, though situated on the w. coast, were the remains of the Österbygd; but in 1885 it was proved finally and conclusively that no ruins of a similar description existed anywhere on the e. coast of Greenland.

The part of the G. coast still unknown is that between Cape Bismarck in 76½° n. lat. and Cape Kane in 83½° n. lat., a distance of 500 m. If this part offers no peculiar n.e. projection, then the whole coastline may be roughly estimated at 5,500 m., or 12,000, following every island, fjord, and peninsula. The area again may be variously estimated at 512,000 and 320,000 sq. m., according as one includes or omits the islands and fjords running inland, which are 60 m. long on an average. The interior of G. is of great interest with regard to physical geography in general. Owing to its size and continental character, it is the only known home on the n. hemisphere of real icebergs. Nearly half of the supposed circumference of the interior has recently been explored by a series of expeditions, whose results explain adequately how the icebergs are produced. It has been proved that a huge ice-sheet covers the whole of the interior like a deluge. The surface of this enormous glacier, only occasionally interrupted by protruding mountain tops, rises slightly toward the interior. Several travellers have tried to penetrate into this unknown region, crossing the ice till they reached heights of 7,000 ft.; but it was not until 1888 that G. was crossed from e. to w. by Nansen, when the 'divide' was found to attain some 10,000 ft. above the sea. An American expedition, under Lieut. Peary, is now in G., which purposes to climb on to the ice cap from the coast and to travel n. by dog sled until it ascertains, if possible, the n. boundary of the country. On account of this ice cap G. has no rivers corresponding to its magnitude. Instead of its being drained by rivers, the inland ice at certain points of the coast is thrust into the sea by forces which have their origin in extensive lateral glaciers in the interior. These points are represented by the so-called ice-fjords, of which six or eight of first-rate magnitude are found in Danish Greenland between 62° n. lat. on the e. coast and 73° on the w. coast. Five of these have been narrowly explored, and it has been ascertained that the inland ice, which produces the bergs, and whose thickness may be estimated at 1,000 ft., is pushed on an average with a velocity of 50 ft. in 24 hours into the sea, where it breaks into fragments—the bergs. The mass thus annually delivered into one of the largest class of ice-fjords would be equal in size to a mountain more than 1,000 ft. high and covering 4 square miles.

The coast margin that surrounds the ice-covered inland is by no means devoid of perpetual ice itself, but its glaciers are more or less isolated. It is very mountainous; bold headlands, 3,000 to 5,000 ft. high, are common in the n. as well as in the s., and some mountains even rise to a height of 6,000 to 7,000 ft. Low flat land is found only in small patches, especially round the heads of some of the fjords. These inlets generally take the form of narrow channels, frequently more than 1,000 ft. deep. During the summer the whole e. coast, and the w. coast up to 64° n. lat., are more or less encumbered with drift ice from the Spitzbergen sea.

The climate of G., when contrasted with the climate of the e. coasts of the Atlantic in the same latitude, shows a surprising difference. The s. point of G. has a mean temperature like that of the most n. shores of Iceland and Norway. But the difference consists more in the want of summer than in the severity of the winter. The following figures give the approximate mean temperature in Fahrenheit respectively of the summer, the winter, and the year for three stations on the w. coast: Lichtenau (60½° n. lat.), 44°, 23°, and 33°; Upernivik (73° n. lat.), 38.2°, 6.6°, and 13.3°; Renselaer harbor (78½° n. lat.), 33.4°, -28.6°, and -2.5°. The minimum observed in the n. was -66.5; the maximum in the s. 68°. On the e. coast, in 74½° n. lat., the summer heat was about 40°, the winter -10°; the maximum was 55.6, the minimum -40.4°. The mean temperature of the winter months on the w. coast is very variable from one year to another owing especially to a warm wind from s.e. and e.

The mountains of G. consist chiefly of granitic and Gneissose rocks. On the w. coast, between 65° 15′ and 71° 20′ n. lat., they are interrupted by high table-lands, consisting of trap and basalt, accompanied by sandstone and slate, with beds of coal. The fossil flora discovered in connection with the latter exhibits 613 species, partly Crataceous, with subtropical forms, partly Tertiary, indicating a climate like that of s. Europe. Metallic ores have hitherto proved rather scarce. Besides coal, different varieties of graphite have been discovered, but the only mineral of real economical value hitherto made use of is cryolite, which is exported for the manufacture of soda and a very pure alum. The mine is situated at Ivigtut (61° 10′ n. lat.). It is worked by foreign laborers, and the export is about 10,000 tons annually. A remarkable collection of different minerals occurs in close connection with the cryolite, comprising lead and tin ore, but only in small quantities. Another peculiar group of minerals occurs in connection with eudialyte somewhat farther s.; this mineral also has become an object of commercial speculation. A mineralogical rarity is finally the native iron, of which a mass found on Disco island was estimated to weigh 16,200 lbs.

In sheltered slopes and valleys around the fjords s. of 65° n. lat. copse woods are found, consisting of alder, white birch, more rarely rowan-trees, which grow to six or eight feet high. The highest birch discovered measured about 14 feet. Berries are abundant, especially crowberries and whortleberries. An attempt to grow potatoes at the southmost settlement failed. The Greenland flora comprises 385 species of phanerogams and higher cryptogams, and 330 species of mosses.

The vegetation, as in other regions of the same latitude, comes on rapidly in the long days of spring, and is abundant in quantity if not in species. The plants, of the arctic type, are the same or nearly related to those of the extreme n. of Europe and Asia; none attain to the height of a forest, in any part of G. In its n. part, wherever soil occurs, it is covered with mosses and creeping willows and berry-bearers; the heaths are represented by such genera as andromeda and pyrola; and other common plants are the yellow poppy, the Alpine rose or rhododendron, dryas (of the rose family proper) with white or yellow flowers, a crucifer (drabas), and numerous species of saxifrage. In s. Greenland, some plants, like the dwarf birches, attain to the dignity of bushes, and the number of species is greater. Besides the attempt to grow potatoes, resulting in tubers of the size of rifle balls, experiments have been made with turnips, radishes (successful in even the n.), lettuce, and peas; the last a complete failure. In hot beds, however, strawberries and some vegetables have been raised with some success. Rhubarb grew well, from roots imported, but did not mature seed.

A remarkable fact, bearing on geography of the Glacial or Preglacial time as different from the present, is the fact that the flora and fauna of G. are European rather than American. The inference is that Davis strait and Baffin's bay are very old geologically, and that the islands between G. and Norway are the remnants of an old continuous peninsula. The musk ox found his way from our continent to G., but the terrestrial life of the latter was stopped by the great strait in its emigration w. to a marked degree. The land mammals include the blue and white foxes, the arctic hare, the reindeer, etc. The ermine, lemming and musk ox reached n. G. but did not pass the great glaciers s. Domestic animals were introduced by man.

The fauna numbers 33 species of mammalia, 154 of birds, 79 of fishes. It is from the animal kingdom, especially from the seals and whales, that the natives derive almost their whole subsistence. The number of these animals annually killed in the Danish trading districts on the w. coast is estimated as follows: *Phoca fœtida*, 51,000; *Phoca vitulina*, 1,000; *Phoca grœnlandica*, 23,000; *Phoca barbata*, 1,000; bladdernose seals, 3,000; walrus, 200; white whales, 600; narwhals, 100; humpback whales, 1 or 2. Reindeer, of which 25,000 were shot annually in the years 1845–49, are now rather scarce. Of fish sharks only have any commercial value, but several other kinds afford food for the inhabitants. American ships have for some years tried halibut-fishery on the banks off the w. coast. The dogs used for draught are of great importance in the n. A few goats and horned cattle have been kept by the Europeans, but more as a curiosity.

The inhabitants of G. (see Eskimo) are of the Eskimo race, more or less mixed with European blood. The individuals of the mixed race hardly differ as to language and habits from the genuine Eskimo. Besides the natives, about 250 Europeans usually reside in the country, 30 to 40 of whom have married native women. The number of natives, including the mixed race, was, in Danish w. G., 9,648 in the year 1885, 9,583 in 1886; in Danish e. G., 548 in 1884; the Smith sound tribe may number 150; and lastly some few must be added for the imperfectly known n.e. coast, where natives have been met with. The whole population in this way may amount to 11,000.

Since 1774 the trade of G. has been a royal monopoly; the service employs two inspectors, 30 agents and clerks, and 180 handicraftsmen, boatswains and laborers, most of the latter being natives. There are 12 chief stations for trading and the Danish mission; the s. is Julianehaab (60° 42′ n. lat.), the n. Upernivik (72° 48′ n. lat.). At Godthaab there is a seminary for training native catechists; of late, too, natives have been appointed pastors. The Moravian mission has four chief stations. Since 1863 a municipal system has been tried, for which native representatives are elected by their countrymen. During the 20 years from 1863 to 1882 the annual export by the royal trade was 1,185 tons of oil and 40,000 skins, besides some eider down, feathers, etc. In 1887 the imports were valued at $142,233, the exports at $327,191.

Further information will be found in Danish Greenland, by Dr. H. Rink (Lond., 1877), and in the series Meddelelser om Grönland (vols. i.–xii., Copenhagen, 1879–88), which give the results of investigations since 1876. As regards the rest of G., our principal sources are, for the e., the works of Scoresby, Clavering, and the second German n. polar expedition; information about the n.w. part is scattered over the reports of several well known Arctic expeditions, especially those by Kane, Hall, Nares and Greely. See also Nansen's account of his expedition across the interior of s. G. in 1888.

GUATEMALA.—1.

GUATEMALA, *gaw-tē-mâ'-la,* (Sp.) *gwâ-tā-mâ'-lâ:* a republic of Central America, lying between 13° 46' and 17° 44' n. lat., and bounded on the w. and n. by Mexico; on the e. by Belize, the gulf of Honduras, and the republic of Honduras; on the s. and w. by San Salvador and the Pacific. Part of the frontier, however, is not yet fixed, the boundary line toward Yucatan in particular being still undetermined. In the absence of government surveys the area is estimated at some 46,800 sq. m., much of which is wholly unexplored, so that the course of even the larger rivers and the direction of the main mountain chains, as laid down in the maps of the country, are to a considerable extent hypothetical. The greater part of Guatemala is mountainous, the highlands having a mean elevation of about 7,000 feet above the sea; but the surface presents great variety, with extensive plateaus, terraces, and upland valleys, the last notable for their beauty, fertility, and favorable climate. The main chain runs generally parallel with the Pacific coast, which it approaches within 50 m., on this side the slope is steep and broken by many volcanoes, while toward the Atlantic it sinks in gentle incline, with subsidiary ranges extending to the water's edge. Of the volcanoes, several are active; the most noted is Fuego (12,075 feet), which lays claim to nearly half of the recorded eruptions in Central America. Agua, from whose crater-lake a deluge of water destroyed the first capital in 1541, has been extinct for centuries. Earthquakes are frequent, and occasionally (as in 1863 and 1874) very severe; sulphur and other hot springs are numerous. G. is well watered, the principal rivers being the Usumacinta, which flows into Campeachy bay, and the Polochic and Motagua (about 250 miles), which fall into the gulf of Honduras; yet, owing to the configuration of the country, water in many parts is scarce in the dry season. Those of the streams, moreover, that are navigable possess the ever-present bar common to Central American rivers. The lakes include the Lago de Izabal (36 m. long), below which the Polochic becomes the Rio Dulce; the Laguna del Peten (27 m. by 15); and the Lagos de Atitlan (17 by 8), and Amatitlan, (9 by 3).

The climate, except in the low-lying districts, may be described as perpetual spring, and is generally healthy, but the people are for the most part utterly regardless of all sanitary laws. The hot coast lands on the Pacific are especially liable to visitations of yellow fever. At the capital the temperature ranges from 40° to 87° F., and the annual rainfall is about 53 in.; in the lowlands the mean range is from 70° to 90°; in the uplands ice appears in the dry winters. The rainy season extends generally from Apr. to Oct., Apr. and May being the hottest months.

Guatemala is as yet of little importance as a mining country, but chiefly because its resources are almost wholly undeveloped. Gold, which is found in most of the river beds, is worked to some extent in the department of Izabal; some silver mines are also worked, and a mint was established in 1888; and salt and saltpetre are mined, though not in large quantities. Other minerals are lead, iron, copper, coal, quicksilver, marble, porphyry, sulphur, zinc, gypsum, etc. But the wealth of the country consists in its rich soil, which, according to the altitude, yields the products of every zone. The shores are lined with mangroves, the rivers with bamboos, beyond which rise the forests, where the mahogany, the cocoanut, cohune, and other palms tower above the wild bananas, ferns, and gingers that scantily cover the bare soil below, while the exuberance of orchids and trailing parasites confuses the identity of the trees. In the uplands are forests of huge pines and spruces and oaks; agaves and cherimoyas appear on the hillside, and thick grass clothes the ground; even in the dry lava plains a coarse grass springs up between the lava blocks, and acacias and calabash trees are met with. The forests contain over a hundred kinds of timber trees, including many of the most valuable; yet owing to the absence of roads and means of transport, G. is obliged to import a large quantity of California red wood and other timber. In 1888 the appointment of keepers of the national forests was ordered. Maize and haricot beans (frijoles) grow freely everywhere, peas and potatoes in sufficient quantity for consumption, wheat in the uplands, and rice in the bottom lands. Other products are coffee (the chief export), sugar, cacao, india-rubber, tobacco, cotton, pita and sisal hemp, sarsaparilla, and many medicinal plants, bananas, and a number of other fruits mostly of the finest quality. The export of cochineal, formerly of chief importance, has almost ceased. Cattle are raised sufficient for the needs of the country, though not, as in Honduras, for exportation. The fauna of G.

includes the jaguar, puma, ocelot, coyote, red-deer, tapir, peccary, armadillo, and several monkeys; iguanas and turtles are numerous, whereas the alligators are small and not frequent; and boas and venomous snakes, though the number of species is considerable, are seldom met with. The birds are of great variety and beauty, comprising several hundred species; the national emblem is the superbly coloured Quetzal (q.v.). Insects abound, the most notable being the brilliant butterflies, immense beetles, locusts, many kinds of ants, scorpions, tarantulas, grasshoppers, mosquitoes, flies, and jiggers.

The industries of G. are chiefly confined to the manufacture of woven fabrics, pottery, and saddlery; there are several chocolate factories, and flour and saw mills, in the country, and numerous distilleries of the fiery aguardiente, the sale of which is a government monopoly, yielding about a fourth of the annual revenue. San José, the chief port, Champerico, and Ocos, all on the Pacific, are merely open roadsteads, provided with iron piers; but Santo Tomás, on the Atlantic side, has a good harbor; and in 1883 Livingston, at the mouth of the Rio Dulce, was proclaimed a free port for 10 years, since when the trade has considerably increased. The development of the country, however, is greatly hampered by the absence of serviceable roads, which are for the most part represented by rough mule tracks. For the five years ending 1888 the average annual imports amounted to $3,911,925, the average annual exports to $5,236,982. The figures for 1888 are, exports $9,550,645, imports $7,079,370. The imports, of which Britain supplies nearly a third and the United States a sixth, are chiefly specie, cotton, woollen, and silk goods, wines and spirits, railway plant, and flour; the principal exports are coffee, sugar, fruits, and hides.

The coffee crop for 1890–1 is estimated to yield 80,000,000 lbs.

About a third of the people are said to be of European descent, and the rest aborigines (Maya Quiches); but this rough division takes no account of the mixed races, which embrace nearly a score of distinct crosses recognized by separate names; these Ladinos greatly outnumber the comparatively few pure descendants of the Spanish invaders or settlers. The Indians of the northern forest country are wild and uncivilized. A census taken in 1880 returned the population at 1,224,602; in 1888 this was calculated to have increased to 1,427,116. The capital, Guatemala la Nueva, in 1880 had 65,796 inhabitants, Quetzaltenango 23,[illegible], Chimaltenango and Antigua G. about 14,000. The state religion is the Roman Catholic, which is practically the only form in use, though others are allowed by the constitution. But many of the fine old churches of the country are crumbling to ruin, and it is said that scarcely a tenth of the population ever enter those that remain in use. About a fourth of the births are illegitimate, the larger proportion occurring among the whites. Since 1879 primary education has been compulsory, secular, and gratuitous. There are now about a thousand primary schools of all kinds, attended by some [illegible] pupils; excellent high schools for boys are found in the capital, Quetzaltenango, and Chiquimula, and for girls in the capital and at [illegible]; and schools of law, medicine, engineering, philosophy, literature, [illegible], are also provided.

Guatemala is divided into 22 departments, under civil governors. The executive is vested in a president elected for six years by direct popular vote; he appoints six secretaries of state, who with nine others form the council. The assembly is elected by universal suffrage, in the proportion of one to every 20,000 of the population. The standing army consists nominally of about 2,000 men, the militia of [illegible]. The [illegible] is a heavy drain on the resources of the country, [illegible]. In 1890 the revenue was [illegible], and the expenditure at $[illegible]; but [illegible] the floating debt at $[illegible] [illegible] a total of $[illegible] [illegible] in the floating debt [illegible] millions dollars of paper money [illegible]. On the other hand, since 1881 [illegible] and the [illegible] gold has been [illegible] of value.

Guatemala was conquered in 1524 by Cortez' lieutenant Alvarado with every accompaniment of cruelty and oppression. After three centuries of [illegible] the [illegible] of Guatemala [illegible] was proclaimed [illegible] Sept. 15 [illegible] from 1823 to 1839 [illegible] Rafael Carrera, an uneducated Indian of low birth, who founded the present republic, and reigned over it until his death in 1865. From 1871 until he was killed in a war with Salvador in 1885, Gen. Barrios was president, and under his iron rule the country made considerable progress; monastic orders were rigorously suppressed, and much of the church property was confiscated and appropriated to the uses of public education and for other purposes. Gen. Manuel Lisandro Barillas was elected president in 1886 for a term of six years. G. has long dreamed of a union of the five Central American republics; but Salvador, Costa Rica, and Honduras have feared from such union a diminution of their liberties. In 1890 Ezeta emerged from an anarchic period as provisional president of Salvador, and Barillas called upon him to lay down his office. War was declared by Barillas, but his forces were defeated in a number of sanguinary engagements, and the dictator himself driven to the verge of flight. Finally, peace was re-established by the treaty of G., 1890, Nov. 18, and the exhausted combatants are resting for a while on their arms. There are at present only two short lines of railway (100 m.) in operation; a line from Puerto Barrios, on the Atlantic, to G. city, to connect the Atlantic with the Pacific, was commenced in 1884, but in the meantime has been abandoned. In 1888 there were in the republic 157 post-offices, and over 2,000 m. of telegraph.

The antiquities of G. thus far discovered are not so remarkable at those of Copan in Honduras on the e., and Palenque in Mexico over the border n.w. On the river Montagua are the remains of an ancient city, described by Catherwood and Dr. Scherzer. These resemble those of Copan, and exhibit terraces, mounds, colossal heads, idols, columns, and altars. Similar ruins are to be seen at other points in the same valley. A few miles s. of Lake Amatitlan and also at the foot of the volcano Fuego, both in s.w. G., are remains of ancient aqueducts. Solola is supposed to occupy the site of one of the ancient cities of early history, and the old Cakchiquel capital is represented by its foundations still observable at Tecpan, Guatemala. The ruins of another capital, Utatlan, near Santa Cruz del Quiche, are extensive enough to corroborate the descriptions of its greatness by the Spanish conquerors; absence of sculptures has been noted as remarkable. At the junction of the Pacalah and the Chixoy Brasseur de Bourbourg, are pyramidal mounds and lines of fortifications. Forty m. n.e. of Lake Peten, in n. G., are the ruins of Tikal. In the opinion of Stephens and Catherwood, and others, these and like remains are to be referred to an indigenous Indian civilization, having but accidental analogies with the ancient civilizations of the old world. For further particulars see H. H. Bancroft's Native Races of the Pacific States of North America, vol. iv.

The best work on G. is Brigham's Guatemala, the Land of the Quetzal (1887). See also Stephens, Incidents of Travel in Central America (New York, 1841); Dollfus and Montserrat, Voyage géologique dans les Républiques de Guatemala et de San Salvador (Paris, 1868); Boddam Whetham, Across Central America (Lond. 1877); Laferrière, De Paris à Guatemala (Paris, 1877); a paper by Mr A. P. Maudslay in Proc. Roy. Geog. Soc. (1883); Charnay, Les Anciennes Villes du Nouveau Monde (Paris, 1885); Stoll, Zur Ethnographie der Republik Guatemala (Zurich, 1884), and Guatemala, Reisen und Schilderungen (Leip., 1886); a very full report by Consul-general Hayes Sadler, in No. 600 of Diplomatic and Consular Reports (1889); for the geography, Lemale, Guia geográfica (Guatemala, 1881); and for the early history, Milla y Vidaurre, Historia de la América Central (Guatemala, 2 vols., 1879).

GUIANA, *ghē ä' nä:* in its widest signification, is the region lying between the Orinoco and the Amazons in South America, with the Atlantic on the e. and no definitive boundaries on the w. It consists of five divisions, known respectively as Venezuelan, British, Dutch, French, and Brazilian Guiana, the first named situated to the w. of the next three, and the last named to the s. of all four. But both Venezuelan and Brazilian Guiana being incorporated in those states, we have to describe here only British, Dutch, and French Guiana.

These three colonies abut upon the Atlantic in the order named, between Venezuela on the n. and Brazil on the s. The physical conformation is practically the same in all three. Next the Atlantic is a fringe of alluvial soil, lying in many parts below the sea level, and generally inundated in the rainy seasons, with mud-flats skirting the coast and sandbanks jutting out into the ocean; these last are generally held together by the roots of mangrove-trees, though not unfrequently they are of a shifting character, forming temporary islands and moving about under the impulse of the wind and tide and river current. This alluvial zone, varying in width from 10 to 40 m., and consisting principally of blue argillaceous soil, of very great fertility, contains virtually the only cultivated territory in the three colonies. Beyond it the contour rises by a series of short terraces or land waves up to an undulating savannah region of moderate elevation (average 150 ft.), which is formed geologically of the accumulated detritus brought down from the primitive mountain masses in the interior. The third and innermost division of colonial G. consists of the upland country, a plateau region ridged with mountain chains (which rise in places to 3,000 or 3,500 ft.), and everywhere covered with a dense primeval forest, exceptionally rich in magnificent timber-trees—rich not only in the quality of the timber, but also in the variety of the species. This division is as yet almost wholly unknown, save that the courses of most of the larger rivers have been explored to their sources.

Rivers. The whole of G. is well provided with rivers. Most of them flow n. or n.e. to the Atlantic, and bring down with them vast quantities of sedimentary matter, which becomes deposited as the alluvial mud of the coast. These streams, although they are of admirable service for irrigation purposes, are of little use as waterways for navigation owing to the mudbanks which choke their mouths, the sandbanks which obstruct their channels, and the numerous falls and cataracts by which their waters descend from the highlands and savannah plateaus to the low lying coastal belt. Up to the line of the rapids and falls, however, they are navigable by small vessels for distances varying from 10 to 150 m. Several of them are connected together in their lower courses by cross-channels and artificial canals. Indeed, communication in the colonies is principally effected by water, not by land.

Climate. The climate, as beseems a region lying between 1° and 8° n. lat., is hot and moist, but on the whole tolerably uniform. Generally speaking, the thermometer ranges from a maximum of 95° to a minimum of 70° Fahr.; the average, however, deviates but little from 80° to 82° Fahr. The heat is tempered by sea breezes during greater part of the year. The rainfall is heavy; the average for British and Dutch G. is 75 to 100 in. annually, and in French G. it is still heavier, sometimes reaching 140 in. in the year. The precipitation is, however, greatest in the interior, hence the great number of rivers fed from the wooded mountain slopes inland. Two rainy and two dry seasons are distinguished, the former last as a rule from Dec. to Feb. and from Apr. to Aug. Hurricanes are exceedingly rare.

Flora. As would be expected from the nature of the country, vegetation is of extraordinary richness and luxuriance. Many of the numerous timber trees are valuable for ship-building, house-building, roofing, cabinet-work, etc. Several useful gums are yielded, and also balsams, wax, bark, fibre, oil, tints, juices, medicinal preparations, etc.; caoutchouc, balata, gum copaiba, balsam, carapa seed oil, sarsaparilla, cinchona, laurel oil, calabashes, silk cotton, tonqua beans, arnotto, Bromelia flax, angelica, cotton, tobacco, etc. The best-known food plants comprise the cassava, sweet potato, arrowroot, capsicum or Spanish pepper, tomato, guava, cherry, avogato, bread fruit, melon, granadilla, banana, pine apple, earth nut, yam, rice, and maize. Besides these there is a prodigious quantity of creepers, ferns, tree-ferns, and flowers; among these last must be specially named the orchids, which often form a continuous carpet along the tops of the forest trees, and the magnificent Victoria regia lily.

Fauna.—The most conspicuous branch of the fauna is the birds, the most characteristic forms being the stink bird (a vulture), eagles, owls, nightjars, humming-birds, the bell-bird, several passerine species, orioles, a wren, toucans, jacamars, trogons, puff birds, kingfishers, anis, parrots, the cock of the wood, curassows, tinamous, trumpeters, the jacana, the horned screamer, sandpipers, the sun bittern, herons, ducks, and divers. Mammals are not so plentiful as the extensive uninhabited forests might perhaps suggest. They are represented by jaguars, tiger cats, peccaries, tapirs, deer, sloths, armadillos, ant-eaters, agoutis, capybaras, opossums, raccoons, coatis, porcupines, squirrels, monkeys, martens, fish-otters and manatees. Other forms of animal life are swarms of insects, including butterflies, crickets, mosquitoes, sandflies and jiggers; turtles and tortoises, crocodiles, iguanas, frogs, snakes, including the anaconda and whip snakes; several Siluroid fishes, the electric eel, rays, sharks, and the saw-fish.

Indians. The native Indians, who still for the most part lead a 'wild' life in the forests, constitute several different tribes, and seem to belong to what were probably two distinct stocks, the indigenes and their original conquerors, the Caribs. In many parts of G. rude attempts at picture writing exist on the rocks and faces of the hills. Two varieties have been discriminated—one deeply incised, the other merely scratched. Who the authors were is not known with certainty; they are generally believed to have been the ancestors of the existing Indians, who, however, have preserved no traditions relating to the inscriptions.

History. The first Europeans to explore the coast of G. seem to have been the Spaniards Alonzo de Ojeda in 1499 and Vicente Pinzon in 1500. Several attempts were made by adventurers of different European nations to found colonies in this region in the latter part of the 16th and the early part of the 17th cent. To this period belong Raleigh's and the other expeditions which visited this part of South America in search of the fabulous gold city El Dorado (q.v.) and the lake of Parima. Apart from semi-buccaneering expeditions and landings, the first successful colonization of G. seems to have been made by the Dutch, on the Essequibo, shortly before 1613. The English got firm footing at Surinam in 1650 and the French on the Kourou and Oyapock in 1664. Two years later the English seized both French and Dutch G., but restored them in 1667, and at the same time handed over Surinam to the Netherlands in exchange for New Amsterdam (i.e., New York). The French, in 1674, renewed their attempts to settle at Cayenne, and with success; that part of G. has remained in their hands ever since. Except for two short periods (1781–3 and 1796–1802), the settlements on the Essequibo, Demerara and Berbice, and in Surinam were held by the Dutch down to 1803, when they were again taken possession of by the English, who at the peace of 1814 restored the last named, but retained the first three. Berbice was at first administered as a distinct colony, but in 1831 it was incorporated with the rest of British Guiana. During slave-holding times sugar-planting brought some degree of prosperity to these colonies, but their productiveness in this respect was very sensibly crippled by the abolition of slavery, which deprived them of their supplies of the requisite kind of labor for the plantations. Since that event coffee and cotton have almost entirely ceased to be grown; and the cultivation of beetroot for sugar caused a serious crisis in G. cane-planting. British and Dutch Guiana, however, still show signs of vitality; the cane-sugar industry, if not reviving, is at least not retrograde, while gold-mining is a decidedly progressive industry. Except for gold-mining, which, however, remains stationary, French Guiana is in a hopelessly deplorable condition.

British Guiana, or Demerara, with a coast-line of [illegible] m., is separated from Dutch Guiana on the e. by the river Corentyn. On the s. and w., next Brazil and Venezuela respectively, the boundaries have never been definitively determined. The British make the limits of the colony extend s. to the sources of the Essequibo in the Acarai mountains (about 1° n. lat. and [illegible] w. long.), and from thence nearly due e. to the headwaters of the Corentyn; while the w. boundary (going n.) coincides with the Takutu and Cotinga (or [illegible]); thence it proceeds n.w. to the Imataca range, and onward n. to the mouth of the Amacuro. The Venezuelans, however, claim all the region w. of the Essequibo right up to the sources of that river. The area of British Guiana is approximately set down at [illegible] sq. m. The w. part of the colony is traversed by chains of Pacaraima or Parima mountain system, which stretch generally from w. to e., as the Imataca range in the n., the Merume or Pacaraima mountains, which rise to 3,000 ft. between [illegible] and 5° [illegible] n. lat., and to some 8,000 or 9,000 ft.) in the table-topped Roraima (q.v.), and the Acarai mountains, which form the s. boundary of the colony, as well as the watershed between the Essequibo and the feeders of the Amazons. Between the two last mentioned comes an e. extension of the great Brazilian savannah region. The more important rivers are the Corentyn, Berbice, Demerara, Essequibo (with its tributaries, the Rapununi and the Mazaruni, and the Cuyuni, an affluent of this last), Waini, and Barima, all flowing n. into the Atlantic; and the Takutu, which, supplemented by the Ireng and Cotinga, feeds the Rio Branco, a left-hand tributary of the Amazon.

The leading industry of the colony is the cultivation of the sugar cane. Wood cutting and gold mining are the only other industries of any moment. The exports embrace sugar (average for six years ending 1888, 128,308 hhds.), rum (2,533,400 gals.), molasses (1,818,300 gals.), timber, shingles, charcoal, cocoa-nuts, balata (86,942 lbs. in 1887; 248,485 lbs. in 1888), and gums. The export of gold increased from 250 oz. in 1884 to 6,518 oz. in 1886, and 14,570 in 1888. The total value of the exports, which go principally to the United Kingdom (71 per cent. in 1885; 49 per cent. in 1888), United States (17 per cent. in 1885; 38 per cent. in 1888), and West Indies, fell from $15,561,860 in 1882 to $9,819,555 in 1888. The imports (mostly from the United Kingdom), which consist chiefly of flour, rice, dried fish, butter, pork, and beef, averaged $8,332,594 for the six years ending 1888, having fallen from $10,786,400 in 1883 to $7,692,366 in 1888.

In 1881 the population was 252,535, and embraced Europeans, Creoles, negroes, coolies from India, Chinese, natives of Madeira and the Azores, and aboriginal Indians; but of these last only 7,656 are included in the census return. In 1888 the population was estimated at 278,477. Most of the plantation work is done by immigrant coolies from British India and by Chinese.

The colony is divided into three counties, Berbice, Demerara, and Essequibo. The ports are Georgetown (q.v.), the capital, and New Amsterdam. The administration is in the hands of the governor, appointed by the crown, and two legislative councils—the court of policy (10 members) and the combined court (16 members)—the latter having the control of the finances. Slavery was abolished in the colony in 1834, though the exportation of slaves from Africa had practically ceased 26 years before. The colony possesses one line of railway, from Georgetown to Mahaica (21 m. long), telegraphic communication with Europe and the United States, and a good system of postage.

Dutch Guiana, or Surinam, with an area of 46,058 sq. m., and a coast line of 240 m., has for its boundary on the w. the river Corentyn, on the s. the Acarai mountains and their e. continuation, the Tumac-Humac mountains, and on the e. the Maroni or Marowijn, which separates it from French Guiana. It is, however, a matter of dispute between the French and the Dutch which of the two upper branches of this last river—the right-hand arm, the Awa or Lawa, or the left-hand arm, the Tapanahoni—is the upper part of the main stream. The Dutch claim that it is the former, the French the latter. The other rivers of the country are the Surinam, Saramacca, Coppename, and Nickerie, all flowing into the Atlantic. The greater part of the surface is covered with unexplored primeval forest, scarcely more than [illegible] sq. m. of the whole area being cultivated. Sugar and cocoa are the staple productions. As in British Guiana, cotton and coffee are not now cultivated, except a very small quantity of the latter. [illegible], after an increasing return, seems to be falling off again. The chief exports are sugar (average for three years ending 1888, [illegible] tons), molasses ([illegible] gals.), rum ([illegible] gals.), cocoa [illegible], and gold ([illegible] oz.). Gold mining has made rapid strides since 1875, the export having increased in value from $[illegible] in 1875 to $[illegible] in [illegible], and $[illegible] in 1888, though thus far [illegible] more [illegible] of the country. In the year 1888 new discoveries of gold were made in the [illegible] between the rivers Tapanahoni and Awa, the [illegible] some [illegible] sq. m. in extent, which is in dispute between Holland and France. The total annual trade, in and out, is valued at [illegible]. Trade is carried on principally with Holland, the United States, and Great Britain and her dependencies. The capital of the colony is Paramaribo (q.v.). The population, which [illegible] in 1884 [illegible], of whom nearly one half live in Paramaribo. In 1887 the total was given at [illegible]. Besides these there were about [illegible] Bush negroes, [illegible] negroes who [illegible] during slavery times and subsequently asserted their independence, and 1,200 Indians. As in British Guiana [illegible] pally performed by coolies from British India and by Chinese. The colony is divided into eight administrative districts and the town of Paramaribo, and is under the charge of a governor, assisted by an executive council. The members of the provincial estates, the legislative body, are elected by the people. Slavery was abolished in 1863.

FRENCH GUIANA, or CAYENNE, is separated from Dutch Guiana on the w. by the Maroni, from Brazil on the s. by the Tumuc-Humac mountains, and from the same country on the e. by the Oyapock, although the French claim all the coastal districts as far s. as the Amazons. The treaty boundary is the 'river of Vicente Pinzon,' the identity of which is the point in dispute; the French government, however, in 1856 expressed itself as willing to recognize the Araguary as the treaty stream. The n. and n.e. sides of the colony are washed by the Atlantic. Taking the Oyapock as the provisionally accepted boundary, the area of the colony is about 31,000 sq. m., while the length of coast line is about 240 m.; the area, as officially given, is 46,850 sq. m. The coast is not so uniformly low and regular as in British and Dutch Guiana. Cayenne (q.v.), the capital of the colony, stands on a rocky promontory, and a little farther to the n.w. lie the Safety islands (Iles du Salut), behind which is the best roadstead in the colony. The undulating, heavily timbered savannah region is crossed by one or two ranges of granite hills, nowhere exceeding 2,600 ft. in height. The culminating ridge, the Tumuc-Humac mountains, only rises 1,000 feet higher. The more important rivers, which all flow into the Atlantic, are the Maroni, Mana, Sinnamary, Kourou, Approuague, and Oyapock.

The commerce is almost nil, the only exports being cocoa and arnotto (*roucou*), each to the extent of about 150,000 lb. annually. A little coffee is grown. Gold is mined, however, and an average of 59,679 oz., valued at about $1,082,635, are exported annually. Probably half as much again is smuggled out of the country. In 1883 the total exports, exclusive of gold, were valued at $83,104 only, and the imports at $1,728,108; in 1887 the two together amounted to $259,756. The population of the entire colony only amounted to 26,905 in 1886. The number of the inhabitants is slowly but surely diminishing; the marriages of people of European blood show a remarkable degree of sterility, and the infant mortality is great. The prevailing diseases of the swampy coast lands are malarial fever, dysentery, anaemia, and yellow fever. From 1853–64 an attempt was made to found penal colonies in French Guiana, all of which proved disastrous, partly owing to the unhealthiness of the climate, and partly to the harsh and ill devised regulations in force for the management of the penitentiaries. The immigrant criminals now come (since 1864) exclusively from Africa (Arabs and negroes) and Asia (Annamites). Slavery was abolished in 1848.

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